



Bureau of Justice Statistics

Sentencing in the Federal Courts: Does Race Matter?

The Transition to Sentencing Guidelines, 1986-90

Discussion Paper from the BJS Federal Justice Statistics Program

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The Transition to Sentencing Guidelines, 1986-90

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Summary

This study examines racial and ethnic disparities in sentences imposed on Federal offenders before and after implementation of the sentencing guidelines authorized by the Sentencing Reform Act of 1984 and the mandatory minimum imprisonment provisions of the Anti-Drug Abuse Act of 1986. Patterns in sentences for whites, blacks, and Hispanics were analyzed by controlling for explanatory variables that may be correlated with race or ethnicity, and by simulating the sentences that would have been imposed under alternative sentencing schemes.

The study's major findings are as follows:

- During 1986-1988, before full implementation of sentencing guidelines, white, black and Hispanic offenders received similar sentences, on average, in Federal district courts.
- Among Federal offenders sentenced under guidelines from January 20, 1989, to June 30, 1990, there were substantial aggregate differences in sentences imposed on white, black, and Hispanic offenders.
 - During this period, 85% of Hispanic offenders and 78% of black offenders were sentenced to imprisonment, compared with 72% of white offenders.
 - On average, black offenders sentenced to prison during this period had imposed sentences that were 41% longer than for whites (21 months longer). For incarcerated Hispanics, the average imposed sentence did not differ significantly from the average sentence for whites.
- Nearly all of the aggregate differences among sentences for whites, blacks, and Hispanics during this period can be attributed to characteristics of offenses and offenders that current law and sentencing guidelines establish as legitimate considerations in sentencing decisions.
- Some characteristics of offenses or offenders that are correlated with race or ethnicity strongly influence sentences under current Federal law and sentencing guidelines. Modifications of specific laws and/or guidelines would essentially eliminate the racial/ethnic differences, as detailed below.
- The main reason that blacks' sentences were longer than whites' during the period from January 1989 to June 1990 was that 83% of all Federal offenders convicted of trafficking in crack cocaine in guideline cases were black, and the average sentence imposed for crack trafficking was twice as long as for trafficking in powdered cocaine. Excluding offenders convicted of trafficking in crack cocaine, the remaining difference in length of incarceration sentences imposed on blacks and whites was 13 months.

- White, black, and Hispanic offenders convicted of trafficking in crack cocaine differed in a number of ways, including the amount of drug sold, the seriousness of the offenders' prior criminal records, whether or not weapons were involved (and whether there were secondary offenses of conviction for firearms offenses), whether offenders pleaded guilty rather than went to trial, and whether charges were reduced in exchange for a guilty plea. *Within the category of crack trafficking* our statistical analyses estimated that these differences accounted for all of the observed variation in imprisonment sentences.
- Excluding offenders convicted of trafficking in powdered or crack cocaine from the totality of offenders sentenced under the guidelines, the remaining difference in the length of incarceration sentences imposed on blacks and whites for all other offenses was 7 months. This residual difference is explained by characteristics of offenders convicted for bank robbery and Federal weapons offenses.
- Mandatory minimum sentences for trafficking in a given weight of crack are the same as minimum sentences for trafficking in 100 times the same weight of cocaine powder. If legislation and guidelines were changed so that crack and powdered cocaine traffickers were sentenced identically for the same weight of cocaine, this study's analysis suggests that the black/white difference in sentences for cocaine trafficking would not only evaporate but would slightly reverse.
- If, as an alternative policy change, the mandatory minimum sentences for cocaine trafficking were to remain unchanged, but the guidelines were to be revised so as to require no more than the mandatory minimum specified by law, the observed 30% longer sentence for black cocaine traffickers would, according to this study's analysis, have been reduced to 11% longer sentences.

Details of Aggregate Patterns

From 1986 through 1988, just before full implementation of sentencing guidelines authorized by the Sentencing Reform Act of 1984 (effective for offenses committed beginning November 1, 1987), 53% percent of white as well as black offenders who were not subject to the Act's provision received prison sentences. Those sentences were roughly comparable in length: a maximum of 51 months, on average, for whites, and 55 months for blacks. Hispanics, on the other hand, were more likely to be imprisoned (69 %), but their maximum imprisonment sentences were identical to those imposed on whites (51 months, on average).

After the implementation of sentencing guidelines and new mandatory minimum sentences in the Federal district courts, differences in the average sentences imposed on whites, blacks, and Hispanics became more pronounced. Sentences received by black and Hispanic Federal offenders in guideline cases were harsher, on average, than those imposed on whites. Seventy-eight percent of all black offenders

and 85% of Hispanic offenders who were convicted of Federal crimes during this period and were subject to the Act's provisions were sentenced to incarceration, while 72% of the whites were so sentenced. For those sentenced to prison, blacks had the longest average prison sentence: 71 months as compared with 50 months for whites and 48 months for Hispanics.

On the surface, at least, this pattern seems contrary to what one would expect following implementation of sentencing guidelines.

Hypotheses Tested

The observed aggregate difference in sentences imposed on whites, blacks, and Hispanics could exist for several reasons, and do not necessarily indicate the presence of unwarranted disparities. One possibility that we explored is *whether the widening differences observed in 1990 at the aggregate level—for all whites, all blacks, and all Hispanics combined—reflect changing proportions of blacks and Hispanics convicted of offenses that are more severely punished.* If this were true, the larger spread between average sentences imposed on blacks, whites, and Hispanics in 1989-1990, as compared to 1986, would have been caused by an increasing concentration of blacks and Hispanics convicted of these more heavily punished offenses rather than by unwarranted disparities.

Another possibility that we explored is *whether the guidelines failed to have the desired effect of producing greater uniformity.* The guideline ranges leave judges some latitude, especially for longer prison sentences. Judges may also depart from the ranges but are required to justify such departures in writing. Judges' sentencing decisions may thereby be influenced by a variety of considerations not deemed legitimate by Congress or the Sentencing Commission, such as the offender's racial or ethnic background. If this were true, whites, blacks, and Hispanics could receive sentences below or above the prescribed guideline ranges at different relative frequencies.

Still a third possibility that we explored is *whether the guidelines themselves created racial or ethnic differences in sentencing.* The Sentencing Reform Act of 1984 mandated that the U.S. Sentencing Commission design a system of guidelines that scale the severity of the recommended sentences to the gravity of the crime and the seriousness of the offender's criminal history. The resulting guidelines—a matrix that grades offense gravity down one side and seriousness of the offender's criminal history across the other—could partially disadvantage blacks or Hispanics by giving greater leverage to those characteristics that they score worse on.

Finally, we examined *whether the differences were outgrowths of mandatory minimum sentencing provisions* that began to be passed in 1984, and were expanded in 1986 and 1988. This could happen if these laws were applied to black and Hispanic offenders more often than to whites.

Relationship of This Study to Other Evaluations of Sentencing Guidelines

Other studies about the effects of the guidelines on Federal sentencing practices include Heaney (1991), Karle and Sager (1991), Katzenelson and McDanal (1991), U.S. Sentencing Commission (1991), and General Accounting Office (1992). These relied upon different sources of data, used a variety of analytic approaches, and reached varying conclusions. Because a number of these studies either framed their investigations in ways which did not directly address the question of racial and ethnic disparity, or examined only a few Federal jurisdictions, or because the analyses in them suffered from methodological shortcomings, we chose to develop our own strategy for evaluating the effects of the guidelines on the uniformity of sentences given to the three principal racial and ethnic categories of Federal offenders: non-Hispanic whites, non-Hispanic African-Americans, and Hispanics of whatever race.

This study is not an evaluation of judicial compliance with the guidelines. It attempts to explore the effects of the express content of the guidelines on racial and ethnic disparity, without assuming that each factor and weighting chosen by either the Sentencing Commission or Congress is necessarily legitimate. The study seeks to partition the observed racial difference among possible sources without casting value judgments, and without accepting or rejecting any part of the process. Earlier studies which evaluated judicial compliance with guidelines in force at the moment measured the variation of sentences around the calculated (or approximated) guideline range for each offender. In general, these studies found little, if any, evidence of systematic judicial discrimination by race or ethnicity.

In this study, our focus has been specifically limited to sentencing outcomes. There are many other questions we have not attempted to answer. We did not investigate the possibility of bias in legal processes leading to a defendant's conviction. It is possible that there exist biases in guilty plea negotiations or in charging practices, but we did not analyze these decisions. For our purposes, the conviction charges were considered as "givens." Nor do we examine time actually served in prison following the sentencing decision. While the study included nearly all of the variables recognized as appropriate for consideration in determining sentences, plus many whose use is prohibited or discouraged, a few variables, such as the defendant's pretrial status, the competence of his or her attorney, and the strength of the government's case, were not considered. (Information about these characteristics was not available in the data we analyzed.) Moreover, we have not undertaken a full analysis of sentencing in *non-guideline* cases to estimate the prevalence and extent of disparities in these decisions.

The study summarized in the following pages builds upon the research efforts described above, and aims to remedy some of the shortcomings of some of those studies. To permit generalization, we examined sentences passed on large numbers of offenders convicted in guidelines cases and in preguidelines cases. Our selection of offenders and cases to compare was also designed to yield strong

inferences about the effect of guidelines, minimizing biases that may exist in other comparison populations. Rather than relying on simple measures of dispersion that are affected by the reductions in average prison sentences (an artifact of the conversion to "real time" sentencing under the guidelines), we employed models for estimating the amount of variance associated with illegitimate characteristics—especially whether the offender was white, black, or Hispanic. Finally, we attempted to disentangle the effects of guidelines and mandatory minimum sentencing laws on judicial sentencing decisions in guidelines cases.

Information Sources

The period chosen for study spanned four and a half years, from January 1, 1986, to June 30, 1990. All sentences imposed during 1986 and all but a handful in 1987 were governed by the law prevailing prior to passage of the Sentencing Reform Act of 1984. (These cases are called "non-guideline" here.) Because the sentencing guidelines implemented on November 1, 1987, are applicable only to convicted offenders who committed offenses after that date, many of the offenders whose cases reached disposition in the years following November 1987 were not sentenced under the guidelines. Moreover, because some judges questioned the constitutionality of the guidelines, there was uneven compliance with the new law until January 18, 1989, when the U.S. Supreme Court upheld, in *Mistretta v. United States*, the constitutionality of the Sentencing Reform Act of 1984 and the guidelines. Consequently, for the purposes of assessing sentencing practices prior to the guidelines' implementation, we examined sentences given in all Federal district courts during 1986 and 1987 to all Federal offenders having non-guideline cases. To assess the effects of the guidelines' implementation, sentences given to all offenders in Federal district courts between January 20, 1989, and June 30, 1990, in guideline cases were examined.

The data used for this study were drawn from the Federal Probation Sentencing and Supervision Information System (FPSSIS). These data files, developed and maintained by the Administrative Office of the U.S. Courts, include information about all offenders convicted in Federal district courts during this period, and contain detailed information about their prior criminal histories; the characteristics of the offenses for which they were being sentenced; their personal, familial, and social backgrounds; and the sentences they received. Because this data set spanned the years preceding and immediately following the implementation of the guidelines, and because it recorded information on offenders and their sentences consistently throughout this period, it is the single best source of data available for practices before and after implementation of sentencing guidelines.

Following June 30, 1990, the U.S. Sentencing Commission assumed responsibility for collecting the type of information previously recorded in the FPSSIS files. However, the types of

information collected by the U.S. Sentencing Commission and the categories used to record the information are not entirely consistent with the earlier FPSSIS files, and reporting was uneven in early months of the new data collection system. For these reasons, we did not attempt to extend the analysis of sentencing in guideline cases past June 30, 1990, when the FPSSIS system was changed.

To distinguish the effects of the guidelines' structure on sentencing differences from the effects of judges' compliance with the guidelines, a second data set was used. This special analysis data set had been constructed earlier by the U.S. Sentencing Commission for its use in developing the guidelines, and described a randomly selected sample of 10,000 Federal offenders sentenced between October 1, 1984, and September 30, 1985. Information about each of these offenders that appears in FPSSIS data was included in the special analysis data set. The Sentencing Commission augmented these data with information drawn from paper records so that guideline ranges could be simulated for each of these sampled offenders. For our simulation analysis, we adapted a computer program developed by the Commission and the Bureau of Prisons for use with these data.

Our Approach to Evaluating Uniformity and Disparity

Whereas the Sentencing Commission's method of evaluating the effects of the guidelines is to assess the dispersion of sentences imposed for different types of offenses before and after the guidelines' implementation, and the extent to which judges comply with the guidelines (U.S. Sentencing Commission, 1991), our approach does not take the guideline range as the standard against which sentences should be evaluated. Rather, we examine the actual sentences imposed (whether the offender was sentenced to prison or not, and separately, the length of imprisonment term if such a term was imposed), and we consider the guideline range as one constraint among many that may affect the sentencing decision. Judges do not mechanically comply with the guidelines, for some depart from the prescribed range, either by passing sentences above the range or below it.

Moreover, the guidelines specify a minimum and a maximum number of months and thereby permit variation within the range; this variation can be quite large, especially for the most serious combinations of offense severity and offenders' prior criminal record. Substantial racial or ethnic differences may potentially exist even while complying with the guidelines, and there may be systematic racial or ethnic differences in the extent to which judges depart from the guidelines. By examining the differences in the actual sentences given to these offenders, regardless of the guideline ranges, we are able to identify potential disparities in sentencing practice. We then consider if differences in guideline ranges account for what may appear to be systematic racial or ethnic differences in sentencing.

In general, our approach is to identify racial and ethnic differences in sentences imposed on offenders convicted of similar types of offenses, and to attempt to account for these differences

statistically by holding constant the other differences among whites, blacks, and Hispanics that may explain the differences in sentences.

The Sentencing Commission's own evaluation of variation before and after implementation of the guidelines concluded that the guidelines were reducing unwarranted disparities (U.S. Sentencing Commission 1991). But an evaluation by the General Accounting Office challenged some of the Commission's conclusions (GAO 1992). Neither of these evaluations focused on disparity according to the defendant's race or ethnicity.

Did Aggregate Differences in Sentences Result from Larger Proportions of Blacks Convicted of More Severely Punished Offenses in Guideline Cases?

Part of the difference between sentences imposed on whites and blacks under the guidelines resulted from the larger proportion of blacks convicted of Federal drug trafficking crimes under the guidelines in the 1989-90 period than were convicted in 1986-1988. In 1986, 19% of all blacks convicted in Federal court were convicted of drug trafficking. By the first half of 1990, that percentage had grown to 46%. The numbers of whites convicted of trafficking had also increased between 1986 and 1990, but not as dramatically: from 26% of all convicted whites in 1986 to 35% in the first half of 1990. Because drug trafficking was one of the most heavily penalized Federal offenses in 1990, this larger increase in blacks so convicted resulted in their receiving longer average sentences than whites.

To measure more precisely the extent to which the increasing differences in sentences imposed on white, black, and Hispanic offenders in guideline cases stemmed from changes in the mix of crimes for which they were convicted, we analyzed what the average sentences would have been in 1990 if the numbers of offenders convicted of each type of crime had not changed since 1986. This distributional analysis showed that the differences observed in 1990 would have been much narrower if the mix of offenders remained exactly the same as in 1986: 8 months, instead of the 25-month difference actually observed in 1990. This 8-month difference was, however, larger than the 1.6-month difference that existed in 1986.

Were Sentences Dissimilar Because Whites, Blacks, and Hispanics Differed in Ways That Were Legitimately Relevant To Sentencing?

To understand the reasons whites, blacks, and Hispanics received different sentences in guideline cases, we conducted closer analyses of sentences imposed for six types of crimes: drug trafficking, bank robbery, weapons offenses, fraud, embezzlement, and larceny. These six offense categories accounted for 73% of all offenders sentenced in guideline cases in the Federal district courts during 1989 and the first half of 1990, and for 77% of all sentences to prison. In comparing drug

traffickers, we examined separately the sentencing of persons convicted of trafficking in heroin, powdered cocaine, crack cocaine, marijuana, and other controlled substances.

Among those convicted of these six types of offenses, we found that blacks, whites, and Hispanic offenders differed in important ways that were legitimately expected to affect a judge's sentencing decision. That is, their crimes varied in gravity, as did their criminal records, even among offenders convicted of the same types of crimes. To determine if these differences accounted for the dissimilar sentencing of whites, blacks, and Hispanics, we conducted multivariate statistical analyses of sentencing outcomes. Attention was limited to two aspects of the sentences: (1) a sentence to imprisonment versus any other outcome; and, (2) if an imprisonment sentence was imposed, the length of that imprisonment term. Because many characteristics associated with sentencing outcomes were also correlated with the offender's being white, black, or Hispanic, multivariate statistical models were constructed for each type of crime. These models produced estimates of the extent to which variation in sentences imposed was associated with the offender being white, black, or Hispanic, after holding constant other characteristics that correlated with sentencing outcomes.

Drug Trafficking

Incarceration rates were high for all offenders convicted of drug trafficking (95%), but the rates for white offenders were slightly lower than for blacks and Hispanics (92% for whites, 96% for blacks, and 97% for Hispanics). There was a much larger difference in the length of imprisonment sentences imposed. Whites received sentences averaging 70 months, compared with 96 months for blacks and 68 months for Hispanics. However, virtually all of these dissimilarities were accounted for by differences among charged offenses, rather than by offenders' race or ethnicity.

Black drug traffickers were more likely than either whites or Hispanics to have a conviction offense that included cocaine trafficking—a severely punished offense. Approximately 71% of all black drug traffickers prosecuted in Federal district court in guideline cases during this period were convicted of cocaine offenses, compared with 50% of all white traffickers and 43% of all Hispanic traffickers. Moreover, blacks convicted of heroin trafficking outnumbered whites and Hispanics (although the numbers of all these offenders were very small in comparison to cocaine traffickers). In contrast, the most serious conviction offense involved marijuana for only 3% of all black traffickers, compared with 19% of all white traffickers, and 39% of all Hispanic traffickers.

Even though black cocaine traffickers received longer average sentences than either whites or Hispanics (102 months, versus 74 and 96 months, respectively), this resulted in part from the fact that a large proportion of all black cocaine traffickers (27%) were prosecuted for crack cocaine rather than powdered cocaine hydrochloride, the form most commonly sold in the United States. Only small

proportions of white and Hispanic cocaine traffickers were prosecuted for crack trafficking: 4% and 3%, respectively. In anti-drug abuse legislation passed in 1986 and 1988, Congress mandated that trafficking in crack be punished much more severely than trafficking in powdered cocaine. The Sentencing Commission and the courts implemented this policy: the average prison sentence imposed in guidelines cases on crack traffickers was 141 months, compared with 79 months for those convicted of trafficking in powdered cocaine.

The higher proportion of blacks charged with crack trafficking was the single most important difference that contributed to the overall aggregate longer sentences imposed on blacks, relative to whites and Hispanics in guidelines cases. As discussed above, the average imprisonment sentence imposed on all black offenders in guideline cases during this period was 41%—or twenty-one months—longer than whites' average sentence. If those convicted of trafficking in crack cocaine are ignored, the black/white difference was smaller: prison sentences imposed on all other blacks and whites differed by 26%, or 13 months.

What happened to blacks under the guidelines, in other words, was that increasingly large numbers of them were being prosecuted and sentenced for an offense that had been singled out by Congress for especially stern punishment—a change in law that occurred at approximately the same time that guidelines came into effect.

The predominance of blacks in crack trafficking cases does not tell the whole story, however. Even among those convicted of trafficking in this drug, there were some racial/ethnic differences in sentences imposed. Hispanics received the longest average sentences for trafficking (162 months), whites the shortest (130 months), compared with blacks' average of 140 months. However, white, black, and Hispanic offenders differed in a number of ways that were associated with these sentencing outcomes. These included the amount of drug sold, the seriousness of the offenders' prior criminal records, whether or not weapons were involved (and whether there were secondary offenses of conviction for firearms offenses), whether offenders pleaded guilty, thus avoiding trial, and whether charges were reduced in exchange for a guilty plea. Our statistical analyses estimated that these differences accounted for all of the observed variation in imprisonment sentences within the category of crack trafficking.

Among those convicted of trafficking in powdered cocaine, Hispanic offenders received prison sentences averaging one-third longer than either black or white offenders (95 months compared to 73 and 71 months, respectively). A linear model which takes into account the quantity of drugs sold, the applicability of mandatory sentences, and other facts reported in the data, explains most of this difference. The relatively small remaining difference (10%) may not be meaningful even though it is statistically significant. Because these particular estimates are based on more than 5,000 observations, even relatively small differences may be reported as statistically significant. Furthermore, additional refinements to the

model or the data may reduce the indicated residual effects even further. Any finding that is sensitive to minor changes in model specifications such as these must be interpreted with caution.

Both types of cocaine trafficking combined accounted for most of the dissimilarities in sentences imposed on whites and blacks. Among those convicted for all other types of Federal crimes, imprisonment sentences imposed on blacks averaged seven months—or 16%—longer than sentences imposed on whites. This difference was narrower than the 41% difference in length of imprisonment terms imposed on all offenders, including those convicted of cocaine trafficking. The remaining difference was explained by the dissimilar sentences imposed on whites and blacks convicted of bank robbery and Federal weapons crimes.

Bank Robbery

Among black, white, and Hispanic bank robbers there was no significant difference in the odds of receiving a prison sentence; nearly all persons convicted of this crime went to prison in guideline cases. Blacks, however, received longer sentences on average: 105 months in prison, compared with 90 months for whites and 92 months for Hispanics.

Blacks convicted of bank robbery differed from whites and Hispanics in a number of ways that were associated with receiving longer sentences. They were, for example, somewhat more likely to have been previously convicted of bank robbery, were more likely to have used a weapon in the robbery, and were more likely to have injured somebody. These differences accounted in large part for the stiffer sentences imposed on blacks for this crime. However, among the subset of bank robbers who had one or two prison sentences on their record, blacks fared worse than other robbers. Once the effects of other measured differences were accounted for, their sentences were an estimated 12% longer.

Weapons Offenses

Upon conviction for Federal weapons offenses, blacks and Hispanics were both sentenced to prison more frequently than whites and for longer periods of time. Ninety-one percent of all blacks went to prison, compared to 84% of all Hispanics and 78% of the whites. Blacks also received longer prison sentences: an average of 56 months, compared with 42 months for Hispanics and 36 months for whites. Although some of these differences could have resulted from whites, blacks and Hispanics differing from one another in ways that mattered at the point of sentencing, not all could be so explained. Controlling for various other differences among offenders in multivariate statistical models, the estimated odds of imprisonment for blacks and Hispanics were about twice that for whites.

Among those sentenced to prison, most of the dissimilarities in average length of imprisonment terms appear to be accounted for by differences among whites, blacks, and Hispanics in

characteristics associated with getting longer rather than shorter terms. However, even when statistical controls were imposed for these relevant differences among offenders, sentences were an estimated 19% longer for blacks, compared to whites.

Fraud

Forty-eight percent of all those convicted of fraud in guideline cases were white, 32% were black, and 20% Hispanic. There was some difference in the rates of incarceration for Hispanics: 53% of all Hispanics convicted of fraud were sentenced to prison, versus 59% of all blacks and 59% of all whites. However, Hispanics received incarceration terms that were shorter, on average, than others. These differences were entirely explained by characteristics of the offense and offender.

Larceny

Among those convicted of these crimes, whites were the least frequently sentenced to prison (42%) but for the longest periods of time, on average (20 months). Hispanics were the most frequently sentenced to prison (52%) but for the shortest times (14 months). Forty-seven percent all blacks convicted of Federal larceny offenses were sentenced to prison, for an average of 16 months.

Characteristics associated with both the severity of sentence and the offender's race/ethnicity appear to have accounted for all the observed differences in sentences, except for the higher odds of imprisonment for blacks. After statistical controls were imposed to account for other differences, blacks were found to have 50% to 60% higher odds of receiving a prison sentence than whites.

Embezzlement

The rates of imprisonment were nearly the same for all three populations of offenders, although blacks had imposed sentences that averaged 42% shorter than whites' sentences, and Hispanics' sentences were 15% shorter than whites'. There were differences in the gravity of crimes committed by blacks, Hispanics, and whites—the dollar value embezzled by blacks was lower than for whites, for example—and these differences appear to account for the dissimilar sentences imposed.

Did Guidelines Themselves Enlarge the Differences in Sentences?

In 1989 and the first half of 1990, the aggregate differences in sentences imposed on whites, blacks, and Hispanics were wider than they were in non-guideline cases disposed during 1986-1988. Some researchers (e.g., Petersilia and Turner 1987) have raised the possibility that sentencing guidelines (in general) have different impacts upon blacks, whites, and Hispanics because of the weight given in many guideline systems to characteristics that may be correlated with race or ethnicity—such as the

offender's prior record. The findings discussed above—that most of the dissimilar sentencing under the guidelines resulted from other legitimately relevant differences among offenders—do not preclude the possibility that the guidelines enlarged the gap between penalties applied to these different populations.

To explore the possibility that the decision rules embedded in the guidelines generated the differences observed among offenders in 1989-1990, we conducted a simulation. Sentencing outcomes in cases disposed before implementation of the guidelines were examined, and we then simulated what these sentences would have been if they had conformed to guidelines that were in existence in 1989-1990. If differences in simulated guideline sentences were more pronounced than the differences in actual sentences imposed, one would have to conclude that the decision rules in the guidelines themselves made the difference.

For this analysis, we modified a computer program developed by the U.S. Sentencing Commission and the Bureau of Prisons. Guideline ranges were simulated for offenders in the Sentencing Commission's special analysis data set. They were a randomly drawn sample of offenders sentenced in Federal district courts between October 1, 1984, and September 30, 1985—a time before the guidelines had been created by the Sentencing Commission. We then simulated sentences that would have been imposed if judges had always chosen the sentence at the midpoint of the guideline range that was later established based on the characteristics of the offender and the offense.

Comparing these simulated sentences for whites, blacks, and Hispanics, we found that the differences in the average sentences imposed on these offenders would have been narrower for nearly all types of crimes, compared to the differences observed in actual sentences. In other words, this test provided no evidence that the decision rules embedded in the guidelines affected blacks or Hispanics more adversely than whites. We were not, however, able to simulate the sentencing of crack cocaine traffickers under the guidelines, because the difference between crack and powdered cocaine had no legal significance in 1984-1985, and the data we analyzed did not distinguish the two drug types.

If the guidelines themselves did not generally increase the dissimilarities in sentencing, what did? One possibility is that the guidelines themselves were not tightly constraining, and that uneven—and perhaps even biased—compliance with them produced the growing gap between sentences imposed on whites and blacks. To test this hypothesis, we compared the guideline ranges for white, black, and Hispanic offenders convicted between January 20, 1989, and June 30, 1990. We then computed the averages of the midpoints of these ranges for each of several different categories of offenders: whites, blacks, or Hispanics, all of whom were further divided according to their principal offense of conviction. Analysis was limited to those offenses we studied intensely: cocaine trafficking, bank robbery, weapons, fraud, larceny, and embezzlement.

If judges had complied uniformly with the guidelines and imposed sentences at the guideline midpoints, the differences among whites, blacks, and Hispanics would have been comparable to the differences observed in actual sentencing outcomes. For all whites and blacks combined, the aggregate average midpoint guideline sentence for these six categories of offenses would have been identical to the average sentence actually imposed. Average sentences imposed on Hispanics would have been longer, and the difference in average sentences imposed on whites and Hispanics would have been larger, consequently. In short: it appears that the causes of the racial/ethnic differences in sentencing for these offenses are to be found in other differences among white, black, and Hispanic offenders and their crimes.

The Impact of Mandatory Minimum Sentencing Laws and the Guidelines' Rules for Punishing Crack Traffickers

In the Anti-Drug Abuse Act of 1986, Congress for the first time distinguished between crack and powdered cocaine and established much tougher mandatory minimum imprisonment sentences for the former. Persons convicted of trafficking in (or even possessing with the intent to distribute) 50 grams or more of crack would be subject to no less than ten years in prison, or no less than twenty if they had been convicted of another drug crime in the past. Persons convicted of trafficking in 5 or more grams, but less than 50, faced minimum sentences of five years, or ten for second offenders. These punishments are identical to the minimum terms required of offenders convicted of selling 100 times that amount of powdered cocaine. To accommodate the principle of proportionality, the Sentencing Commission established additional breakpoints not specified in the legislation. For example, the guidelines range for a first offense of trafficking in 5 grams of crack is just over 60 months (namely, 63 to 78 months). The Sentencing Commission established additional breakpoints at 20 grams, at 35 grams, and at six weights above 50 grams. At each level the guidelines sentence is the same as that for 100 times the weight of cocaine powder.

Simulated Policy Alternatives

As discussed above, the result of Congress' decision to impose much more serious penalties for crack trafficking than for other types of cocaine resulted in blacks receiving much longer sentences, because the vast majority (83%) of all offenders prosecuted for crack in the Federal courts were black. To estimate the effects of these laws, and the way the Sentencing Commission incorporated them into the guidelines, we conducted two simulations of possible legislative and guideline modifications. The first assumed that the sentencing of crack and powdered cocaine trafficking would be the same for the same weight, and that sentencing of crack offenders would strictly follow the guidelines pertaining to powdered

cocaine. The second simulation tested what would have happened if judges had conformed strictly with the mandatory minimum sentencing requirements in the statute, but that the guidelines did not vary the recommended sentences above these mandatory minimum terms for intermediate weights of cocaine.

If crack and powder cocaine trafficking were treated identically, average sentences imposed on crack traffickers would have been much shorter than they actually were: 47 months in prison, rather than the 141-month average actually observed. Sentences for blacks, whites and Hispanics would each have been about two thirds shorter. As a result, the dissimilarities in sentences imposed on black and white cocaine traffickers (both types of cocaine together) would have diminished dramatically. The average sentence for black cocaine traffickers would have been 10% shorter than whites' average sentence, rather than the 30% longer average actually observed.¹ This change would have halved the difference in sentences imposed on all white and black offenders convicted of all crimes in Federal district court during this period. That is, rather than blacks receiving sentences that averaged 41% longer than whites', their sentences would have been 22% longer.

Had the Sentencing Commission merely adopted the plateaus established for mandatory minimum sentences in the statute, and not provided graduated ranges above and below these levels, the difference in white and black sentences would also have narrowed, but not quite as dramatically. For trafficking in any kind of cocaine, blacks' sentences would have averaged 11% longer than whites', rather than the 30% longer average actually served.

Conclusion

The guidelines themselves appear not to have created the larger gap in sentences imposed on whites, blacks, and Hispanics in guideline cases disposed during 1989 and the first half of 1990. The important exceptions to this are the mandatory minimum sentencing laws passed for drugs, especially crack cocaine, and the particular way the Sentencing Commission arrayed guideline ranges above the statutory minima. These two policy decisions resulted in blacks receiving longer sentences, on average, than whites. Sentencing differences that did not result from tougher sentencing of crack traffickers generally flowed from the fact that whites, blacks, and Hispanics convicted under other Federal laws were dissimilar in ways that were relevant to sentencing decisions.

¹ These comparisons exclude offenders for whom the form of cocaine cannot be determined.

Introduction

In 1986 through 1988, just before full implementation of the sentencing guidelines authorized by the Sentencing Reform Act of 1984 (the "Act") white, black, and Hispanic offenders received similar sentences, on average, in Federal district courts.¹ Fifty-four percent of white as well as black offenders who were not subject to the Act's provision were given prison sentences. Those sentences were roughly comparable in length: a maximum of 50 months, on average, for whites, and 53 months for blacks. Hispanics, on the other hand, were more likely to be imprisoned (69%), but their maximum imprisonment sentences were identical to those imposed on whites (52 months, on average).

In late 1987 and 1988, after the implementation of sentencing guidelines in the Federal district courts, differences in the average sentences imposed on whites, blacks, and Hispanics became more pronounced. Sentences received by black and Hispanic Federal offenders in guideline cases were harsher, on average, than those imposed on whites. Seventy-eight percent of all blacks and 85% of all Hispanics who were convicted of Federal crimes during this period and were subject to the Act's provisions were given incarceration sentences, while only 72% of whites so convicted went to prison. For those sentenced to prison, blacks' maximum prison sentences were also longer, averaging 71 months as compared with 50 months for whites, and 48 months for Hispanics.

On the surface, at least, this pattern seems contrary to what one would expect following the implementation of sentencing guidelines. To eliminate what were thought to be unwarranted disparities in Federal court sentencing, Congress passed the Act and dramatically restructured procedures for determining and administering criminal sentences.² To guide judges in exercising their broad sentencing authority, Congress established the U.S. Sentencing Commission and charged it with devising guidelines that would specify narrow ranges of recommended sentences for crimes committed on or after November 1, 1987.

The Sentencing Commission's own evaluation of variation before and after implementation of the guidelines concluded that the guidelines were reducing unwarranted disparities (U.S. Sentencing

¹ Throughout this study, only these three categories of offender race and ethnicity are compared. "White" refers to non-Hispanic Caucasians, "blacks" to non-Hispanics identified as predominantly black, and "Hispanic" to all persons identified as being of Hispanic descent, regardless of skin color. Moreover, offenders who were not subject to the Act's provisions are referred to as having "non-guideline cases," to distinguish them from offenders who were so subject.

² Pub. L. 98-473, 98 Stat. 1937.

Commission 1991). But an evaluation by the General Accounting Office challenged some of the Commission's conclusions (GAO 1992). Neither of these evaluations focused on disparity according to the defendant's race or ethnicity.

The observed aggregate differences in sentences imposed on whites, blacks, and Hispanics could exist for several different reasons, each one having different implications for policymakers. One possibility that we explored is that sentencing is not marked by unwarranted disparities, and that the widening differences observed in 1990 at the aggregate level—for all whites, all blacks, and all Hispanics combined—reflect changing proportions of blacks and Hispanics convicted of more severely punished offenses. Thus, the larger spread between average sentences imposed on blacks, whites, and Hispanics in 1989-1990 as compared to 1986 might have been caused by an increasing concentration of blacks and Hispanics convicted of these more heavily punished offenses rather than unwarranted disparities.

Another possibility that we explored is that the guidelines have failed to have their desired effect of producing greater uniformity. The guideline ranges leave judges some latitude, especially for longer prison sentences. Judges may also depart from the ranges but are required to justify such departures in writing. Judges' sentencing decisions may thereby be influenced by a variety of considerations not deemed legitimate by Congress or the Sentencing Commission, such as the offender's racial or ethnic background. In this way, whites, blacks, and Hispanics could be given sentences below or above the prescribed guideline ranges at different relative frequencies.

Still a third possibility that we explored is that the guidelines themselves created racial or ethnic differences in sentencing. The Sentencing Reform Act of 1984 mandated that the U.S. Sentencing Commission design a system of guidelines that scale the severity of the recommended sentences to the gravity of the crime and the seriousness of the offender's criminal history. The resulting guidelines—a matrix that grades offense gravity down one side and the seriousness of the offender's criminal history across the other—could inadvertently disadvantage blacks or Hispanics by giving greater leverage to those characteristics that they score worst on.

Finally, it is possible that the increasing gap in sentences given to whites, blacks, and Hispanics in 1989-1990 reflects the growing effects of mandatory minimum sentencing provisions that began to be passed in 1984, and were then expanded in 1986 and 1988.³ These laws may be applied to black and Hispanic offenders more often than to whites.

This study is an analysis of sentencing decisions during a period of transition in Federal district courts, beginning with 1986, before the guidelines were implemented, and through the first half of 1990.

³ Pub.L. 98-473 (1984); Pub.L. 99-308 (1986); Pub.L. 99-570 (1986); Pub.L. 100-690 (1988).

The following pages include:

- a description of the Sentencing Reform Act of 1984 and the changes it wrought on sentencing procedures;
- a review of previous research on disparities in sentencing;
- an analysis of sentencing patterns in six specific categories of crime—bank robbery, weapons, drug trafficking, embezzlement, fraud, and larceny—to determine if any evidence exists of racial or ethnic bias;
- a comparison of sentencing differences found in cases not subject to the guidelines;
- an examination of whether the growing differences in sentences imposed on white, black, and Hispanic offenders resulted from the increasing concentration of blacks convicted of severely punished crimes;
- an assessment of whether the guidelines themselves generated larger differences among white, black, and Hispanic offenders than would have existed otherwise; and
- an analysis of the impact on racial/ethnic differences in sentencing made by the mandatory minimum imprisonment provisions in the Anti-Drug Abuse Act of 1986.

In this study, our focus has been specifically limited to judges' sentencing decisions. There are many other questions we have not attempted to answer. We did not investigate the possibility of bias in legal processes leading to the conviction. It is possible that biases exist in guilty plea negotiations or in charging practices, but we did not analyze these decisions. For our purposes, the conviction charges were considered as "givens." Nor did we examine times actually served in prison following the sentencing decision. While the study included nearly all of the variables recognized as appropriate for consideration in determining sentences, plus many whose use is prohibited or discouraged, a few variables, such as the defendant's pretrial status, the competence of his or her attorney, and the strength of the government's case, were not considered. (Information about these characteristics was not available in the data we analyzed.) Moreover, we have not undertaken a full analysis of sentencing in non-guideline cases to estimate the prevalence and extent of disparities in these decisions.

The Sentencing Reform Act of 1984

Congress' passage of the Sentencing Reform Act of 1984 ended a protracted legislative struggle to limit the sentencing powers of the Federal courts in criminal cases.⁴ The U.S. Sentencing Commission was established in 1985 and given the charge to develop guidelines for judges to follow. The authority of the U.S. Parole Commission to release prisoners was eliminated in cases brought for offenses committed after the date the guidelines took effect (November 1, 1987). With parole release no longer possible in these cases, judges were required to pass sentences that would be served in full, save a possible shortening of time that could be awarded by prison authorities for good behavior. (For sentences longer than a year, the most "good time" that prisoners could be awarded would be fifteen percent of the total sentence imposed.)

The principal objective of the Reform Act—or, at least, of many of the Act's sponsors—was to eliminate opportunities for disparities in sentencing; differences in sentences imposed that were not considered legitimate by Congress. The Commission was directed to develop guidelines that considered only certain enumerated characteristics of offenders and their crimes. These included the offense of conviction, certain elements of the offense as alleged ("the real offense"), the offender's role in the offense, his or her criminal history, dependence on crime for a livelihood, and any extraordinary physical impairment. Congress explicitly prohibited consideration of certain other characteristics: the offender's race, sex, national origin, creed, religion, and socio-economic status. In addition, Congress strongly discouraged consideration of certain other characteristics: the offender's community ties, family ties and responsibilities, employment record, physical condition, drug dependence, alcohol abuse, mental and emotional condition, educational and vocational skills, and age. By specifying those characteristics to be assessed when fixing the criminal sentence, Congress hoped that unwarranted differences in sentences would be eliminated, and that differences that may have resulted from having drawn one judge rather than another, or from having been prosecuted in one district rather than another, or from having one kind of racial or ethnic background, would evaporate.

Although the law and the guidelines were resisted by a number of Federal judges, who believed them to be an unconstitutional infringement on their authority, the U.S. Supreme Court upheld the Act's constitutionality in *Mistretta v. United States* on January 18, 1989.⁵ After that date, judicial resistance

⁴ The Sentencing Reform Act was first introduced in 1977 (S.1437, 95th Congress). The Act was part of a major substantive reform of the Federal criminal code that encompassed revisions to bail and other procedural laws. It was finally passed in 1984, after the submission of successive bills and seven years of debate (Public Law 98-473, 98 Stat. 1937).

⁵ Mo. 1989, 109 S.Ct. 647, 448 U.S. 361.

abated quickly, and all cases prosecuted for crimes committed after November 1, 1987, were sentenced under the Act's provisions.

The changes in procedural law wrought by the Act are the most dramatic reform of Federal sentencing in this century. This rearrangement of sentencing authority was thought necessary or, at least, desirable, because unwarranted disparities were thought to be rife in "indeterminate" sentencing systems (that is, where judges were given wide latitude by statute and where parole boards made decisions about when to release prisoners).⁶ In his influential attack on established sentencing procedures published in 1973, *Criminal Sentences: Law Without Order*, then Federal Judge Marvin Frankel wrote:

The almost wholly unchecked and sweeping powers we give to judges in the fashioning of sentences are terrifying and intolerable for a society that professes devotion to the rule of law.... [W]e have an almost entire absence in the United States of legislative determinations—of "law"—governing the basic questions as to the purposes and justifications of criminal sanctions. Without binding guides on such questions, it is inevitable that individual sentencers will strike out on a multiplicity of courses chosen by each decision-maker for himself. The result is chaos (1973: 5, 105-6).

But how chaotic were sentencing decisions, in fact, either in the Federal or State courts? And is it inevitable that individual sentencers, in the absence of constraints in statutory or administrative law, will "strike out on a multiplicity of courses," resulting in unwarranted differences? That disparities were prevalent and pronounced prior to the Act was nearly taken for granted, although a more critical examination of the evidence presented in the next chapter raises questions about this article of faith.

⁶ The most purely indeterminate systems were those in which the judge's decision was to incarcerate or not, leaving the release decision entirely to the parole authorities, without imposing outer bounds. California's system was closest to this model. All other states required that judges impose a maximum sentence upon offenders convicted of most crimes, although they permitted the parole authorities to release prisoners short of that maximum, sometimes within court-specified boundaries. These types of sentencing systems are considered "modified indeterminate" ones.

The Conflicting Evidence of Disparities in Studies of Sentencing Decisions

Studies of Sentencing in State and Local Jurisdictions

Research findings about disparity in sentencing practices came largely from analyses of State and local courts, not Federal courts. Since the days sociologists first turned their attention to criminal sentencing, concerns about race bias and judicial inconsistency have been one of their most important research issues. Indeed, one of the first quantitative studies of sentencing decisions published in the United States examined the differential likelihood of death sentences imposed upon blacks and whites convicted of homicide. In his 1928 study of Detroit's criminal court, Thorsten Sellin found that blacks fared consistently worse than whites. He concluded that this evidenced a "decided discrimination against the Negro." Over the following 40 years, there were many empirical studies of sentencing decisions focused on the question of racial discrimination. For example, Johnson (1941), in his study of persons convicted of homicide between 1933 and 1939 in North Carolina found that sentences varied not only with the race of the offender but with the race of the victim as well (blacks killing whites received the most severe sentences). Later studies (e.g., Garfinkel 1949) supported these conclusions.

The central question posed by these and other early sentencing studies was whether the findings could really be interpreted as evidence of judicial discrimination. Equally objectionable, they might indicate discrimination institutionalized in the procedures whereby defendants were prosecuted and convicted. Alternatively, the observed differences might have resulted from factors that were legitimate for judges to consider when passing sentence. For example, Bensing and Schroeder's 1960 study of homicides in Cleveland found a sentencing pattern similar to that reported by Johnson and Garfinkel, but went on to show that black offenders who killed whites were more often charged with felony murder. The felony murder cases were more likely to be convicted of first degree murder than other homicides for evidentiary reasons, and the sentences were more severe as a consequence.¹ In other words, a pattern which at first appeared to show "decided discrimination against the Negro" turned out, upon

¹ For offenders charged with other types of homicides (i.e., not committed during the course of another felony), conviction of first degree murder in Ohio required that the homicide be shown beyond a reasonable doubt to have occurred with "malice aforethought" or to have been otherwise premeditated.

further analysis, to be explained by differences in the types of crimes charged, which could accurately have reflected the types of crimes committed.

A second research question that has a long history of study in state and local courts is whether or not sentences vary from judge to judge, and, by extension, from one geographical area to another. This was the subject of perhaps the first quantitative study of sentencing by George Emerson (1919), who examined over 15,000 cases handled by the New York City Magistrates' Court. He found dramatic differences in the types of sentences meted out by the judges and concluded that to great extent "justice resolves itself into the personality of the judge." Other researchers who followed, such as Morse and Beattie (1932), and Gaudet (1949), came to similar conclusions.

The consensus about these early studies is that they suffered from a variety of methodological difficulties, including:

- not controlling for factors that might have explained the differences that were reported, especially the defendants' prior criminal records and details of the severity of the instant offenses,
- examination of selected sub-populations of offenders sentenced (e.g., only those sentenced to death, or in one small jurisdiction or another),
- not reporting measures of the strength of association (other than simply stating that statistically significant differences were found), and
- "black box" designs, which gave attention only to the "output" of the sentencing process and did not collect any information about the prosecution and sentencing processes themselves.

Beginning in the late 1960s, analysts began to move beyond a narrow concern for disparities toward an examination of the more general processes and determinants of sentencing (e.g., Comment 1969; Nagel 1969; Hogarth 1971; Green 1968; Engle 1971; Wilkins, Kress, et al. 1978; Feeley 1979; Sutton 1978). However, few consistent conclusions could be drawn from this body of studies. In 1978, Sutton summarized the situation by saying that the findings of the research were "strikingly noncumulative" because they tended to focus narrowly on a single court or jurisdiction at a single point in time.

Beginning around the same time, empirical and statistically-based research became increasingly sophisticated with the introduction of more computerized tools, but still only sporadic or inconclusive indications of sentencing disparity were found. No compelling or consistent evidence of widespread patterns of racial disparity was documented, even though the belief that such disparities existed had

propelled some state legislatures to introduce sentencing guidelines during the 1980s. Farnworth et al. (1991) summarized the evaluative research as "tending to conclude an absence of 'overt' discrimination against blacks once controls for legal variables were included in the analysis" (p. 58). Nelson (1992) similarly summarized, "Most of the research in the 1980s that estimated disparities in post arrest case processing concluded that there were no disparities, that disparities were relatively small, or that the disparities in some decisions were balanced by opposite disparities in other decisions."

Klein et al. (1990b) summarized their findings from a statistically sophisticated study of data from 14 urban jurisdictions, which were consistent with earlier findings for the State of California (Klein et al., 1990a), by saying, "multivariate analyses ... found that a defendant's racial or ethnic group bore little or no relation to conviction rates, disposition times, or other key outcome measures" including conviction and length of sentence. "With few exceptions, defendants with similar case characteristics and criminal records have about the same likelihood of being convicted and incarcerated regardless of where their case is adjudicated." (p. ix)

Thus the changes in sentencing policy that were introduced in the 1970s and 1980s, such as sentencing guidelines and elimination or reduction of parole discretion, were intended to combat perceived widespread disparities but did not actually have a sound foundation in research demonstrating the existence of such disparities. Many doubts remained about the policy implications of inconclusive or null research findings.

Recently, researchers have begun to use different methods to look at the issue of racial disparity. They focus on avoiding misspecification of mathematical models through aggregation. Avoiding aggregation includes:

- distinguishing among minority groups, especially Hispanics (Farnworth et al., 1991) and American Indians (Zatz, et al., 1991), that may have been analyzed in a single group together with blacks in earlier studies, but who may have sentencing patterns that differ from, or in some instances are opposite to, the patterns for blacks, and
- developing models that distinguish data according to the geographical jurisdiction of the court (Nelson, 1992).

These approaches are once again beginning to show indications of disparity where less sophisticated mathematical methods show none. Nelson found disparity in sentencing in New York State during 1985-86 that varied by county and could not be estimated from statewide data aggregated across counties. He defined disparity as "a significant difference in how often minorities and whites were

incarcerated that is not attributable to differences in arrest charges, prior criminal records, and county of processing" and showed that minorities were incarcerated more often than similarly situated whites. Whether these kinds of findings will be found in other states awaits further research.

Studies of Sentencing in Federal Courts Prior to Sentencing Guidelines

Studies of sentencing in the Federal courts prior to the introduction of sentencing guidelines were similar to the research on State and local court processes in their lack of consensus about the existence or extent of disparities. However, none showed any indication of significant disparities by race in Federal sentencing.

An influential study by the Federal Judicial Center (Partridge and Eldridge 1973), provided information suggesting wide disparities in Federal sentencing. The researchers sent a number of identical pre-sentencing reports to Federal judges and asked them to pass sentences upon the offenders described. The mock sentences chosen by these judges for the same hypothetical offenders varied widely, both in type and length. Given the structure of this experiment, the authors concluded that the source of the variation was the judges themselves.

Although this study has stood years as a *prima facie* case in favor of determinant sentencing in Federal courts, it had a serious flaw: it did not examine actual sentences imposed. Rather, it simulated what the authors took to be the actual sentencing process—a system whereby convicted offenders are brought before a judge and are given a sentence, as after a trial. The main problem with the research methodology is that most Federal offenders are not convicted at trial, but plead guilty, and the process by which these guilty pleas are obtained was not simulated. Defendants in many courts plead guilty only after various kinds of agreements are reached regarding charges, sentence recommendations, and even "sentence promises."² Moreover, defendants may refuse to plead guilty if the suggested outcome is outside the range of the sentences expected, or customarily given, in such cases. It is likely that these dynamics constrained judges in their sentencing decisions, and that these forces were not simulated in the Federal Judicial Center's experiment.

² Rule 11 prohibits judges from making sentence promises in advance of pleas in the Federal courts, but it is not known if judges actually follow the rule in all instances, if they have developed subtle signals to communicate their intentions, or if prosecutors, judges, and defense attorneys develop implicit understandings about the *quid pro quo* for pleading guilty in various types of cases.

Only a few studies examined actual Federal sentencing decisions prior to the introduction of sentencing guidelines. Together, they showed that sentencing was not greatly dependent on the judge that one drew. Rather, outcomes generally corresponded to differences in cases and offenders' characteristics that were commonly seen as legitimately considered. Some differences existed that were controversial as to their desirability (e.g., differences in sentencing among Federal circuits) but could not be deemed necessarily invidious. Differences clearly thought to be unwarranted (e.g., by the offender's race or ethnicity) were found to be uniformly small or statistically insignificant.

Sutton (1978) examined sentences imposed in Federal district courts during 1971 on offenders convicted of eight offenses: bank robbery, interstate transportation of a stolen vehicle, narcotics violations, Marihuana Tax Act violations, Selective Service Act violations, counterfeiting, bank embezzlement, and larceny from interstate commerce. He constructed statistical models of the decision to incarcerate or not, and separate models of the length of incarceration. The length of the imposed prison term was found to be more predictable than the decision to incarcerate. The most significant predictors of sentencing decisions included length of prior record, method of conviction (plea/trial), and type offense at conviction. Race was not found to be a significant factor. Moreover, sentences for drug offenses were found to be most predictable of those studied, sentences for bank embezzlement and Selective Service violations the least.

Rhodes and Conly (1981) examined sentences imposed during 1973-1978 for eleven offenses: bank embezzlement, postal embezzlement, forgery, mail fraud, bank robbery, drug offenses, income tax violations, homicide, bribery, false claims and statements, and a random sample of all other Federal offenses. They analyzed the decision to incarcerate, the length of the imposed incarceration sentence, the estimated time actually served by prisoners incarcerated, and the length of probation terms for persons so sentenced. The various models accounted for a substantial proportion of the observed variation (more than half, in some models) and the differences associated with the race of the offender were not found to be statistically significant, except marginally so in the "in/out" decision in drug cases and in the random sample of all other Federal offenses.

Wheeler, Weisbord and Bode (1982) examined Federal white collar cases reaching conviction in fiscal years 1976-78 in seven Federal districts.³ The authors constructed separate models for the decision

³ Specifically, the authors examined eight different white collar crimes: antitrust offenses, securities and exchange fraud, postal and wire fraud, false claims and statements, credit and lending institution fraud, bank embezzlement, IRS fraud, and bribery.

to incarcerate and for the length of imprisonment imposed. They found that their models were able to account for a substantial amount of the observed variation in sentences; they found evidence of statistically significant differences among Federal circuits; the offender's race was found to have no independent effect. This work by Wheeler et al. has been further developed with consistent results (e.g., Mann, Wheeler & Sarat, 1980; Wheeler, Sarat & Mann 1988; Weisburd et al. 1991). As stated by Weisburd (1992), "the degree of capriciousness or prejudice evident in the sentencing behavior of Federal judges before the establishment of the guidelines [has been] often overstated."

The U.S. Sentencing Commission's staff conducted a study of Federal sentences to help the commissioners develop guidelines based on the principal determinants of sentencing (Rhodes, 1987). This study examined sentences imposed upon offenders convicted of seventeen different offenses between October 1984 and September 1985. Because the staff's purpose was to assist in the development of weights to apply to various factors to be considered in sentencing, the effect of illegitimate factors, such as race, was not explored in this study. Commissioner Nagel of the U.S. Sentencing Commission testified about the details of the analysis of four of these offenses: bank robbery, fraud, bank embezzlement, and heroin distribution and importation (Nagel 1987). After controlling for clearly legitimate sentencing factors such as whether the offender was armed and the offender's prior criminal record and role in the offense, significant differences were found in the probability of imprisonment and/or the length of imprisonment in these preguidelines cases based on whether the offender pled guilty or went to trial, and based on the offender's sex and region of the country (or Federal district) where prosecuted. After controlling for other factors, race and ethnicity variables were not significant, except for bank embezzlement, where black offenders were sentenced to significantly shorter prison terms than other similarly situated embezzlers. Nagel discussed some of the differences among geographical regions in the context of possible racial disparity, based on the relative mix of black, white, and Hispanic Federal offenders in the regions in question.

Studies of Federal Sentencing Under Guidelines

A number of studies examining sentencing outcomes in cases subject to Federal sentencing guidelines have been published in the past two years. In a BJS Special Report *Federal Sentencing in Transition, 1986-90*, we examined sentencing decisions both before and after implementation of the guidelines but did not attempt to assess whether guideline sentencing was more uniform than preguideline sentencing (McDonald and Carlson 1992). Offenders convicted under the guidelines were more likely to be sentenced to prison than were offenders in the preguidelines period (and, correspondingly, fewer

were sentenced to probation or to fines). The average length of imposed sentences to incarceration declined for all offenses other than drug offenses (reflecting the fact that prisoners would not be eligible for parole), but the estimated time to be served in prison was longer for all offense types for offenders sentenced under the guidelines.

On the average, Federal sentencing statistics for the preguidelines period showed that higher percentages of white offenders were sentenced to prison than were black offenders, but the incarcerated white offenders had somewhat shorter average imposed sentences than did black offenders. Neither the imposed sentences nor the actual time served by offenders in prison showed consistent patterns of black/white differences across offense categories.⁴ Hispanic offenders experienced lower percentages sentenced to prison and lower terms of incarceration, primarily due to their disproportionate representation among the immigration offenses (which have lesser sentences than average). Female offenders had, on average, lesser sentences than male offenders, and served less time in prison; this was thought to be attributable to female offenders' having been convicted of less serious offenses and their having fewer prior convictions. However, no multivariate statistical analyses were performed for that study.

In one of the first studies to attempt an analysis of sentencing disparities under the guidelines, Federal Judge Gerald Heaney conducted an analysis of sentences imposed in four district courts in the Eighth Circuit during 1989, and a separate analysis of sentencing data provided by the U.S. Sentencing Commission for all males aged 18-35 who were sentenced during 1989 in all Federal district courts (Heaney, 1991). Comparing data from the four district courts, Heaney found that in guidelines cases the proportion of offenders pleading guilty went down, the "penalty" for going to trial increased, the length of time an offender could expect to serve in prison increased, the proportion of probation-only sentences declined dramatically, and there were significant inter-district differences in the average length of sentence imposed. Moreover, in analyzing the sentences imposed on males 18 to 35 years old, he found that a larger proportion of those sentenced under the guidelines were black or Hispanic, compared to the proportion sentenced in nonguideline cases, and concluded that this was evidence of "disparity."

However, Heaney's conclusions about the effects of the guidelines can be challenged because they are based upon a comparison of guideline with nonguideline cases sentenced during 1989 only. That

⁴The BJS Special Report *Federal Sentencing in Transition, 1986-90* examined the time served by prisoners released in 1990. The vast majority of them had been sentenced for offenses prior to the effective date of the guidelines.

year's guideline cases and nonguideline cases do not represent comparable populations of offenders, because nonguideline cases that had not reached disposition until 1989 were unrepresentative of sentencing patterns that prevailed before the guidelines took effect on November 1, 1987. Offenses committed after that date were subject to sentencing under the guidelines, so that offenders who were sentenced in 1989 for offenses committed earlier than November 1, 1987, selectively had cases that *took longer than average to reach disposition*. In contrast, guideline sentences imposed in 1989 were unrepresentative because these offenders' cases took *shorter than average* to reach disposition. A better comparison would have been between sentences in guideline cases from a longer period and nonguideline cases from a period before November 1987.

The pattern that Judge Heaney saw as evidence of disparity could have resulted from comparing two different populations of offenders. A larger proportion of guideline cases sentenced during 1989 were for drug charges, compared to nonguideline cases sentenced during that year (because drug offenses are disposed of more quickly, on average), and drug offenders are disproportionately black or Hispanic (McDonald and Carlson, 1992). Even when offense type is controlled for in other parts of Heaney's study (as in comparisons of average length of sentence imposed), the lack of comparable populations could still have distorted the results.

A study by Karle and Sager (1991) also sought to compare sentences imposed in nonguideline and guideline cases. They chose cases disposed in three states within the Fifth Circuit: Texas, Louisiana, and Mississippi. Nonguideline cases sentenced between November 1, 1985, and October 31, 1987, were examined, and compared to guideline cases sentenced after November 1, 1987. The study was further restricted to persons convicted of these offenses: drug importation and distribution, embezzlement, fraud, robbery, larceny, and immigration offenses. Comparing the dispersion of sentences around the average sentence imposed (that is, the standard deviation from the mean number of months sentenced to prison), they found that the range of dispersion was narrower in guideline cases, and concluded that "even with judicial departures, the guidelines are significantly reducing the sentence variations on an overall scale for most offenses" (p. 407).

This study had several important flaws, however. First, the differentiation of guideline from nonguideline cases appears to have been faulty. Cases disposed on or after the first day the guidelines took effect (November 1, 1987) were selected as guideline cases, but, as discussed above, the law prescribed that only offenders who committed offenses after that date were to be sentenced under the new law. By so selecting cases on the basis of the sentencing date, the population of guideline cases apparently included nonguideline cases as well.

Second, comparing the range of dispersion—or the standard deviation—in nonguideline and guideline cases is an imperfect measure of disparity. In cases not subject to the guidelines, judges imposed maximum sentences under the assumption that parole release was possible, and they assumed that only a portion of the maximum sentence would be served in prison. In guideline cases, however, judges were imposing "real time" prison sentences, to be served in full, without the possibility of parole (minus a small amount of time off that could be given for good behavior while in prison—no more than 15% of the total sentence). The guideline ranges established for particular types of offenses therefore prescribed shorter court-imposed sentences, on average, than were typically imposed in nonguideline cases. Accordingly, the average prison sentence imposed by the court in guideline cases was shorter for most types of crimes (McDonald and Carlson, 1992). The narrower dispersion of sentences imposed may reflect merely the overall shortening of the sentences, and a corresponding narrowing of the possible range of variation. A better measure for comparing dispersion would not be as dependent upon the length of the mean sentence.

Finally, because the nonguideline sentences could have included a term of parole, a more meaningful comparison would have been between time actually served in prison in nonguideline and guideline cases.

Another study of sentencing under the guidelines was conducted by Susan Katzenelson and Charles McDanal, staff members of the U.S. Sentencing Commission (1991). They did not compare guideline cases with nonguideline cases, but instead studied only guideline sentences. For the 23,000 guideline cases disposed during fiscal year 1990, they examined the relationship between the sentence imposed and the guideline range computed for each offender. The sentence imposed was categorized as being in one of six positions relative to the guideline range: below the lower boundary, in the first quarter of the range, in the second quarter, the third quarter, the fourth quarter, or above the range. The authors aimed to account for what types of offenders receive sentences in each of these ranges.

The general pattern was that the vast majority of sentences were found to be either at the extremes of the range or outside the range altogether. Only 22% of the studied sentences were within the range but not at either the top or bottom end. Violent offenses tended to be sentenced at the high end of their range; economic crimes near or at the lower end. Many drug cases received below-range sentences, with the incidence of this increasing as the gravity of the offense increased. Despite the fact that the guideline range is computed to reflect the offender's prior criminal record, judges tended to sentence below, or near the bottom of the range, offenders who lacked prior records or who had less serious ones. Offenders

with longer records were more likely to get sentences at the top of the guideline range or over the range altogether.

The authors found little clear evidence of unwarranted disparities (although this study was not designed principally as a study of disparate sentencing). Some differences in the sentencing tendencies of the 12 Federal circuits were found, but the authors believed that it was too early to determine if the pattern was systematic. Moreover, "[no] clear pattern of variation emerges in sentence position relative to range by the defendant's race" (p. 8). However, women seem to "fare better in the system overall," because their sentences were generally at the bottom end of the range or below range.

A more recent study by Candace Johnson (1993), prepared for the Sentencing Commission, sought to determine why blacks and Hispanics received longer sentences in guideline cases during FY 1991. The study focused on prosecutorial discretion and on sentencing within and outside the guideline range. It found that blacks were more frequently charged by prosecutors with provisions of Federal law requiring mandatory minimum prison sentences upon conviction, and that whites were more often rewarded with reduced sentences for providing prosecutors with "substantial assistance" in developing cases against others. Moreover, it found that some of the observed differences in sentencing could be attributed to racial/ethnic differences in the degree to which offenders were sentenced at the top of their guidelines range, based on the severity of their crimes and their criminal histories. These factors were found to account for all of the white/Hispanic sentencing differences, but there remained a small but statistically significant unexplained difference between sentences imposed on white and black offenders.

The USSC Impact Report

The analysis of sentencing disparity by the U.S. Sentencing Commission (1991b) compared directly the uniformity of sentences imposed in guidelines and nonguidelines cases, as well as the uniformity of time actually served in prison in both types of cases. Weisburd (1992) and Rhodes (1992) have published brief summaries and critiques of this analysis.

The nonguideline cases studied by the Commission had been sentenced during fiscal year 1985; guideline cases chosen for analysis included offenders sentenced between January 19, 1989, and September 30, 1990, although cocaine cases were drawn from a shorter period—September through December 1990. To compare sentences imposed in comparable cases, the Commission's staff limited analysis to only four major offense types: bank robbery, cocaine distribution, heroin distribution, and bank embezzlement. Weisburd (1992) criticizes this limited choice of cases, saying, "the restricted samples employed by the Commission make it very difficult to generalize broadly from their findings."

Rhodes (1992) points out the same defect, that "although the Commission's analysis ... is simple, elegant, and informative, the results cannot be generalized to other offenses."

Cases were further winnowed down so that both the actual offenses and the criminal records of the offenders were quite comparable. For example, the only bank robbers included in the analysis were those who took less than \$10,000, who acted alone or who were equally culpable with other participants, who didn't injure anyone, who pleaded guilty, who didn't cooperate with the prosecution, etc. This winnowing yielded very small numbers of offenders to compare, however. For example, analysis of the guidelines' effects on sentences for bank robbers who brandished weapons rested upon a comparison of 18 offenders having pre-guideline and 24 with guideline cases.

The ranges of sentences imposed on these offenders in guideline and nonguideline cases were compared, as were the "expected times" served in prison in guideline and nonguideline cases. The Commission concluded that these preliminary data "show significant reductions in disparity", (p. 5, Executive Summary) and that the reductions were a result of the guidelines. Because Congress had established the reduction of disparities as one of the primary goals of the Sentencing Reform Act of 1984, the Commission's findings were taken as evidence of the Act's success (p. 85 of Executive Summary).

The Commission's conclusions are not well supported by its own analysis, however. First, a comparison of maximum court-imposed sentences in preguideline cases (which were designed to include a parole term after release from prison) with "real time" sentences under the guidelines is misleading. The meaning of a court-imposed sentence shifted under the guidelines, and this alone would have accounted for a narrower dispersion of sentences, even if there was no difference at all in actual times served in prison. Moreover, if blacks' sentences had been systematically longer than whites' in guideline cases—as well as in nonguideline cases—the analysis would not have uncovered this.

Second, the actual comparisons of both court-imposed sentences and of expected time served showed statistically insignificant differences in five of the eight comparisons. That is, for these offenses there was *no evidence that sentencing patterns had changed at all under the guidelines*. This inability to draw strong inferences in favor of finding a guidelines effect stemmed in part from the use of such small numbers of offenders in the comparisons. Weisbord (1992) calls this the "bad news" of the study, pointing out that with a change to "real time" sentencing, one should certainly expect to see a guideline effect.

Moreover, there is reason to think that what appeared to be a narrowing of the ranges in sentences (both sentences imposed by the court and time expected to be served in prison) may have resulted not from the sentencing guidelines but from mandatory minimum sentences. Not only was the

"ceiling" on court-imposed maximum sentences lowered under the Sentencing Reform Act as Congress substituted real-time for prison-plus-parole sentences, but Congress also raised the "floor" by passing mandatory minimum sentencing laws as part of the Anti-Drug Abuse Acts of 1986 and 1988. Persons convicted of certain offenses were to be sent to prison for specified minimum periods of time, regardless of any mitigating conditions that may exist. These laws took effect at about the same time as the guidelines, and they had the result of raising the bottom end of the sentencing distribution above zero months in prison. (Non-imprisonment sentences were included in the cases studied by the Commission, and were scored as receiving zero months in prison.) Interestingly, three of the four types of offenses studied by the Sentencing Commission—all but bank embezzlement—were subject to sentencing under these mandatory minimum sentencing laws. As summarized by Rhodes (1992), "the new laws would have reduced sentence disparity regardless of how the guidelines operated."

Recognizing the lack of comparability in maximum sentences imposed in guideline and nonguideline cases, the Commission also examined the ranges of estimated times to be served in prison in both types of cases. Time to be served in prison in nonguideline cases was estimated as equivalent to the presumptive parole release date established by the Board of Parole. In guideline cases, the authors assumed that the sentence imposed would be served in full, less the maximum amount of time off for good behavior. The resulting distributions of estimated prison sentences served were then compared for guideline cases and nonguideline cases, for the four selected offenses. In all cases, the dispersions were narrower under guidelines, although the reduction was not as dramatic as the reductions found in court-imposed maximum sentences. Attributing these changes to the guidelines alone is unwarranted, however, because mandatory minimum sentencing laws not only eliminated the possibility of non-imprisonment sentences but also established a high minimum sentence, which would in and of itself compress the range of sentence time served in prison, independent of the guidelines. Moreover, the use of the presumptive parole date may not correspond closely with the prison time actually served prior to the guidelines. This may render the comparisons of time served inaccurate.

The GAO Impact Report

The General Accounting Office of Congress evaluated the USSC impact report and also conducted its own study of sentencing under the guidelines, issuing its report in 1992. The GAO report identified the existence of disparities under the guidelines that had not been present prior to the enactment of the guidelines. It disagreed with the Sentencing Commission's view of what constitutes disparity:

"The Commission maintained that as long as the sentences imposed are within the guidelines range, they are by definition similar. Consequently, according to the Commission, unwarranted disparity cannot exist if the sentences imposed fall within the guidelines range. We disagree with the Commission's position that disparity can only exist when the sentence imposed is outside the guidelines range." (GAO 1992, p. 13)

The Commission, in its written response to the GAO draft report, reasserted that statistically significant variations within the guideline range represent permissible judicial discretion, cannot be defined as disparity, and were incorrectly labelled "unwarranted" by GAO (GAO 1992, p. 178).

The GAO analyzed the same data as the Commission but extended the analysis to impose statistical controls separately for offense severity level, criminal history category, offense type, and mode of disposition (whether by plea or by trial). It found that imposed guideline sentences, controlled for these differences, were significantly related to the offender's race, gender, employment status, age, and marital status, but not to educational level. The pattern found for disparity by race in Federal guideline sentencing was that whites typically received longer sentences than blacks, but the report did not present estimates of the number of days or months of the difference (only that it was statistically significant). Blacks were also found to be more likely to receive bottom-of-range sentences than were whites.

Although the GAO's report concluded that disparities had decreased under the guidelines, the basis for this conclusion is unclear and possibly unsound. The GAO's comparison of nonguideline sentences with guideline sentences is based on the expected length of time to be served in prison, a statistic which is easy to estimate for guidelines sentences but very difficult for nonguidelines sentences. The GAO report is unclear about the sources of data they used in making these estimates for nonguideline sentences, but it appears to us that GAO did not use any verified information about the actual length of time served in prison for nonguideline cases. Instead, GAO relied on an estimate of the offender's parole date that appears in the database based on a presentence investigation report. This estimate is not empirically based. In fact, the estimate in the presentence investigation report is derived from an earlier set of sentencing guidelines, those of the US Parole Commission. Consequently, the GAO may have been comparing disparity under one set of guidelines with disparity under another, and may not have addressed the real issue.

Studies of the Effects of Federal Mandatory Minimum Sentencing Laws

Although not aiming to disentangle the effects of guidelines and mandatory minimum sentencing laws in Federal sentencing, a number of studies have been conducted on the mandatory minimum laws.

Meierhofer (1991) examined Federal sentences imposed during January 1, 1984, through June 30, 1990, analyzing the length of imposed incarceration sentence for all persons convicted and sentenced during this period and, for those persons charged with behaviors that carry mandatory minimum prison terms, the proportion given sentences at or above the prescribed minimum. For the former population (that is, all Federal offenders), the author reports only the average length of imposed sentence for all years examined, without attempting to account for any changes in length of sentence. (In addition, the study does not partition guideline from nonguideline sentences during the post-1988 periods—a feature that obscures the significant trends in Federal sentencing practice.) For that subset of persons (about 10% of the total number sentenced) who were charged with behaviors that apparently made the offenders eligible for mandatory minimum sentencing, Meierhofer conducted an analysis of covariance to estimate the amount of observed variation in sentencing decisions attributable to nine different factors: type and amount of drug, whether a weapon was involved, offender's prior record, role in the offense, drug use, age, gender, and race.

The author reported finding a difference in the proportions of whites, blacks and Hispanics being sentenced at or above the mandatory minimum, but reports also that the examined variables accounted for only 12-16 percent of variation (p. 19). This suggests (and the author recognizes) that other factors affecting sentencing decisions were not included in the analysis--and these may account for the apparent racial/ethnic differences.

An expanded version of this study is that by the U.S. Sentencing Commission (1991a). This study reports finding a large proportion of all convicted defendants being given sentences below the mandatory minimums required by statute, even though the offenses of conviction were ones for which the Congress had specifically designed mandated minimum incarceration terms. Moreover, the study reported finding systematic differences in the proportions of black and white offenders who were given sentences shorter than the minimum sentence prescribed by statute. Whites qualifying for prosecution under the Federal mandatory minimum statutes actually received the mandatory minimum for the highest charge 54% of the time, versus 57% for Hispanics and 68% for blacks.

Langan (1992) reanalyzed the same data used by the Sentencing Commission, first attempting to replicate their results and then applying four alternative forms of models. He concluded that the difference between Hispanics and whites was not statistically significant and that the difference between blacks and whites, "while statistically significant (.05 level), explained almost nothing." None of the models explained any substantial portion of the variance in sentencing outcomes. Langan further showed

that, controlling for six legally relevant case variables, the defendant's race was unrelated to sentencing outcomes.

Langan also examined the recorded reasons why mandatory minimum sentences were not applied in the 40% of qualifying cases that did not receive sentences above the minimums. He found reasonable explanations, such as substantial assistance by the defendant to the prosecutor (which removes the mandatory minimum requirements that would otherwise be binding), evidentiary problems in proving the elements that require the mandatory minimum, and 10 percentage points (out of 40) for defendants who possessed but did not carry a gun. (The Sentencing Commission's analysis assumed they should have received a gun enhancement, ignoring the difficulty of obtaining an indictment or conviction mentioning the gun enhancement in cases where the defendant did not carry a gun.)

How Our Study Aims to Advance Understanding of the Guidelines' Effects

The study described in the following pages builds upon the research efforts described above, and aims to remedy some of the shortcomings of some of those studies. To permit generalization, we examine sentences passed on large numbers of offenders convicted in guideline cases and in preguideline cases. Our selection of offenders and cases to compare is also designed to yield strong inferences about the effect of guidelines, minimizing biases that may exist in other comparison populations. Rather than relying on simple measures of dispersion that are affected by the reductions in average prison sentences (an artifact of the conversion to "real time" sentencing), we employ models for estimating the amount of variance associated with illegitimate characteristics—especially whether the offender was white, black, or Hispanic. Finally, we attempt to disentangle the effects of guidelines and mandatory minimum sentencing laws on judicial sentencing decisions in guideline cases.

This study is not an evaluation of judicial compliance with the guidelines. It attempts to explore the effects of the express content of the guidelines on racial and ethnic disparity, without assuming that each factor and weighting chosen by either the Sentencing Commission or Congress is necessarily legitimate. Unlike some studies described above, our models do not compare offenders' sentences with their calculated or estimated guidelines ranges. Instead, the study seeks to partition the observed racial difference among possible sources without casting value judgments, accepting or rejecting any part of the process.

Differences in Sentences Given to White, Black, and Hispanic Offenders: 1986-1990

To examine the changes in sentencing decisions throughout the 1986-1990 period, when sentencing guidelines were being implemented in the Federal district courts, two different populations of offenders were selected for analysis. These were selected to best reveal the changes associated with the guidelines, and to minimize the confounding effects of other dynamics.

The first included all offenders sentenced from January 20, 1989, to June 30, 1990, who were subject to the Sentencing Reform Act's provisions—called "guideline cases" hereafter. This population is better suited to an analysis of sentencing under the guidelines than including earlier cases (the guidelines began to be implemented in November 1987). Initially many judges contested the constitutionality of the Sentencing Reform Act and refused to comply with the guidelines, and it was not until the U.S. Supreme Court issued its opinion on January 18, 1989, in *Mistretta v. the United States* that the matter was settled in favor of the guidelines. Between November 1987 and January 18, 1989, some judges continued to sentence under the old law, while others complied with the new one. Those offenders sentenced under the guidelines during this period are probably not representative of what guideline sentencing has since become. To minimize any bias in the comparisons that may have resulted from this uneven application, we excluded offenders with guideline cases who were sentenced during this period prior to the *Mistretta* decision. By doing so, we have the first nationwide population of offenders sentenced in Federal district courts under the guidelines, free of any distortions associated with the selective application of the guidelines.

Offenders sentenced after the end of June 1990 were excluded from this analysis because the data collection system that produced the information analyzed here—the Federal Probation Sentencing and Supervision Information System (FPSSIS)—was changed, and responsibility for collecting much of the needed information was transferred to the U.S. Sentencing Commission. Rather than drawing from two different data sources, we limited this study to a single, internally consistent series. Moreover, by the middle of 1990, more than two and a half years had passed since the implementation of the guidelines and a year and a half since *Mistretta*. This period was sufficiently long to permit an examination of sentencing practices through the transition period. For a picture of the longer-term effects, studies of the subsequent periods will be needed.

To compare sentencing in these cases with sentencing patterns prevailing prior to passage of the guidelines, a second population was chosen. It included all offenders sentenced in Federal district courts during 1986, 1987, and 1988 who were not subject to the provisions of the Sentencing Reform Act of 1984. These offenders are referred to here as having "non-guideline" cases. All committed their crimes before November 1, 1987. Excluded were offenders sentenced during 1987 and 1988 who had committed their crimes after November 1, 1987 and were consequently subject to the Act's provisions.¹ We chose to exclude these offenders because we do not know how the uneven compliance with the Act in the nation's Federal district courts prior to the *Mistretta* decision affected these early guideline cases.

Guideline Cases: Racial/Ethnic Differences in Sentencing

During the year and a half following full implementation of the sentencing guidelines (after the *Mistretta* decision in January 1989), blacks and Hispanics were given more punitive sentences, on average, than whites. Whereas 72% of all whites in guideline cases during this period were sentenced to prison, 85% of all Hispanics received such sentences, and 78% of all blacks (Table 3.1). When imprisonment sentences were imposed, blacks averaged the longest terms—71 months—while imposed sentences for whites and Hispanics were shorter and nearly identical, at 50 and 48 months respectively (Table 3.3). Overall, blacks' sentences averaged 41% longer than whites' (Table 3.4).

This pattern was not consistent across types of crimes. Black/white differences in the proportions sentenced to prison were most pronounced among those convicted of drug offenses (93% versus 86%, respectively, of blacks and whites), weapons offenses (91% versus 78%), and larceny (47% versus 42%). Among those sent to prison, blacks were given 37% longer sentences for drug offenses, 16% longer for robberies (most of which were bank robberies), and 55% longer for weapons offenses. For other types of crimes, the differences were either narrow, or the numbers of offenders convicted for these offenses were small.

Although substantial differences in lengths of imprisonment sentences were found for whites and blacks in only a few offense categories, these were among the most commonly charged crimes. Because the numbers of persons in these categories constituted such a large proportion of all Federal offenders, the sentencing differences for these crimes accounted for most of the aggregate difference among all white and black offenders. This is evident in Table 3.5, which calculates the black/white difference in length of sentence after successively excluding offenders convicted of these few types of crimes.

¹ There were about two dozen such offenders in 1987. During 1988, 17% of all sentenced offenders had guideline cases and were excluded from our analysis.

Table 3.1

**Proportion of Offenders Sent to Prison in Guideline Cases,
By Offender's Race/Ethnicity and Offense of Conviction
(January 20, 1989 - June 30, 1990)**

<u>Primary offense at conviction</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
All offenses	71.6%	78.3%	85.1%
Violent offenses	92.4	95.4	93.4
Murder/manslaughter	91.7	88.5	95.8
Assault	60.7	82.8	81.6
Robbery	99.1	98.5	98.6
Rape	-	-	-
Other sex offenses	71.8	-	-
Kidnapping	100.0	-	-
Other	88.9	-	-
Property offenses	51.1	51.5	54.6
Fraudulent offenses	51.1	51.3	53.2
Embezzlement	28.2	27.7	29.7
Fraud	59.1	58.9	52.6
Forgery	58.5	59.8	68.5
Counterfeiting	65.7	65.5	62.2
Other offenses	51.0	52.0	62.0
Burglary	94.0	94.4	-
Larceny	41.6	47.2	51.9
Motor vehicle theft	81.0	84.4	95.2
Arson	-	-	-
Transportation of stolen property	73.4	82.8	-
Other property	36.1	-	-
Drug offenses	85.6	93.4	92.9
Trafficking	92.2	96.4	97.1
Possession and other	31.6	50.5	50.4
Public order offenses	66.4	76.7	81.7
Regulatory offenses	45.8	48.6	68.1
Weapons	78.0	91.3	83.9
Immigration offenses	77.5	80.0	83.8
Tax law violations	64.0	-	-
Racketeering and extortion	81.9	84.4	86.8
All other	61.2	63.0	78.9

- Too few cases to obtain statistically reliable data.

Table 3.2

**Number of Offenders Sentenced in Guideline Cases,
By Offense of Conviction and Offender's Race/Ethnicity
(January 20, 1989 - June 30, 1990)**

<u>Primary offense at conviction</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
All offenses	16,132	9,803	9,115
Violent offenses	1,208	613	151
Murder/manslaughter	48	26	24
Assault	112	87	38
Robbery	865	464	72
Rape	17	14	5
Other sex offenses	110	7	3
Kidnapping	29	12	7
Other	27	3	2
Property offenses	4,746	3,020	1,131
Fraudulent offenses	3,197	2,035	952
Embezzlement	888	527	74
Fraud	1,657	1,095	707
Forgery	337	326	89
Counterfeiting	315	87	82
Other offenses	1,549	985	179
Burglary	83	54	3
Larceny	1,114	853	133
Motor vehicle theft	158	32	21
Arson	5	1	1
Transportation of stolen property	128	29	15
Other property	61	16	6
Drug offenses	6,492	4,824	5,347
Trafficking	5,783	4,513	4,867
Possession and other	709	311	480
Public order offenses	3,686	1,346	2,486
Regulatory offenses	850	181	238
Weapons	1,204	643	249
Immigration offenses	436	100	1,782
Tax law violations	111	13	13
Racketeering and extortion	226	77	38
All other	859	332	166

Table 3.3

**Average Length (in Months) of Prison Sentences Imposed in Guideline Cases,
By Offense of Conviction and Offender's Race/Ethnicity
(Offenders Sentenced to Prison Only: January 20, 1989 - June 30, 1990)**

<u>Primary offense at conviction</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
All offenses	50.4 mo	71.1 mo	47.8 mo
Violent offenses	85.5 mo	101.2 mo	85.7 mo
Murder/manslaughter	121.1	157.4	122.0
Assault	41.1	48.3	33.6
Robbery	90.1	104.1	88.0
Rape	-	-	-
Other sex offenses	34.1	-	-
Kidnapping	178.7	-	-
Other	32.3	-	-
Property offenses	17.6 mo	15.4 mo	10.4 mo
Fraudulent offenses	15.2 mo	12.5 mo	9.1 mo
Embezzlement	10.7	6.2	9.1
Fraud	16.0	14.6	7.0
Forgery	16.5	9.9	14.8
Counterfeiting	15.5	14.9	17.0
Other offenses	22.7 mo	21.3 mo	16.3 mo
Burglary	44.0	60.3	-
Larceny	19.9	15.8	14.1
Motor vehicle theft	19.1	14.9	12.8
Arson	-	-	...
Transportation of stolen property	25.6	42.0	-
Other property	14.2	-	-
Drug offenses	67.8 mo	93.1 mo	64.9 mo
Trafficking	70.2	95.8	67.9
Possession and other	12.5	17.2	7.6
Public order offenses	27.4 mo	41.7 mo	14.7 mo
Regulatory offenses	23.5	21.0	16.5
Weapons	36.0	55.6	41.6
Immigration offenses	10.6	9.2	9.1
Tax law violations	28.2	-	-
Racketeering and extortion	50.6	63.1	65.2
All other	17.4	17.6	19.8

- Too few cases to obtain statistically reliable data.

... No cases of this type occurred in the data.

Table 3.4

**Percentage Difference in Length of Prison Sentences in Guideline Cases
(Offenders Sentenced to Prison Only: January 20, 1989 - June 30, 1990)**

<u>Primary offense at conviction</u>	<u>Blacks vs. Whites</u>	<u>Hispanics vs. Whites</u>
All offenses	41 %	-5 %
Violent offenses		
Murder/manslaughter	18	0
Assault	30	1
Robbery	18	-18
Rape	16	-2
Other sex offenses	-15	-78
Kidnapping	23	19
Other	-41	-30
Property offenses	-13 %	-41 %
Fraudulent offenses	-17 %	-40 %
Embezzlement	-42	-15
Fraud	-9	-56
Forgery	-40	-10
Counterfeiting	-4	9
Other offenses	-6 %	-28 %
Burglary	37	9
Larceny	-21	-29
Motor vehicle theft	-22	-33
Arson	-	-
Transportation of stolen property	64	15
Other property	-59	-66
Drug offenses	37 %	-4 %
Trafficking	37	-3
Possession and other	37	-40
Public order offenses	53 %	-46 %
Regulatory offenses	-11	-30
Weapons	55	16
Immigration offenses	-14	-15
Tax law violations	-33	49
Racketeering and extortion	25	29
All other	1	14

Note: Computed from data in Table 3.3.

- Too few cases to obtain statistically reliable data.

Table 3.5
Number and Mean Length of Imprisonment Sentences,
By Offense at Conviction and Race/Ethnicity
(Guideline Cases, January 20, 1989 - June 30, 1990)

<u>Primary Offense of Conviction</u>	White		Black		<u>Percent Difference in Mean Sentence</u>
	<u>Number</u>	<u>Mean</u>	<u>Number</u>	<u>Mean</u>	
All offenders	11,545	50.4 mo	7,680	71.1 mo	41%
Drug Trafficking Excluding drug trafficking	5,333 6,212	70.2 33.4	4,351 3,329	95.8 38.8	16%
Weapons Offenses Excluding drug trafficking and weapons offenses	939 5,272	36.0 33.0	587 2,742	55.6 35.1	6%
Bank Robbery	843	90.3	440	104.7	
All other offenses	4,430	22.1	2,302	21.8	-1%

Black/white differences in the average length of imprisonment sentence were especially great among those charged with drug trafficking: blacks' sentences averaged more than two years longer than those of whites. Drug trafficking was also the most common crime prosecuted in the Federal district courts, and three-quarters of the total 21 month difference between average sentences for blacks and whites resulted from the gap in sentencing of drug traffickers. Whereas the average sentence given to all black offenders was 41% longer than for all white offenders, the difference was 16% for all blacks and whites convicted of crimes other than drug trafficking. If bank robbers and offenders convicted of weapons crimes are also excluded, the black/white difference for all other types of crimes disappears. In short: what happens to whites and blacks convicted of these three crimes probably accounts for the harsher sentences given to blacks in Federal district courts.

The Hispanic/white differences show a different pattern. As mentioned above, there was a substantial difference in the proportion going to prison, among all offenders convicted during this period:

85% of all Hispanics, compared with 72% of all whites. This overall higher rate of imprisonment resulted chiefly from larger proportions of Hispanics incarcerated for drug trafficking and immigration offenses, and to a lesser extent, for weapons charges and drug possession. Indeed, 20% of all sentenced Hispanics during this period in guidelines cases were convicted of immigration offenses, while much smaller proportions of whites and blacks were convicted of this offense. Among those sentenced to prison, sentences were generally shorter or no different for Hispanics, except for those convicted of weapons offenses. Even among weapons offenders, Hispanics' sentences were only 16% longer.

Comparing Differences Before and After Implementation of the Guidelines

Sentencing differences among whites, blacks, and Hispanics became wider after implementation of the guidelines. In 1986, imprisonment rates following conviction for all crimes combined were essentially identical for whites and blacks, although 14% more Hispanics were sentenced to imprisonment. This pattern remained roughly constant for all offenders sentenced in non-guideline cases through the end of 1988, even though the proportion of convicted offenders being incarcerated was increasing throughout this period for all offenders (Table 3.6). In 1989, the first year after full implementation of the guidelines, the difference between Hispanics and whites sentenced in guideline cases remained roughly the same as in earlier years, but the proportion of blacks being sentenced to prison sentences began to rise. In that year, 8% more blacks than whites were incarcerated. In the first half of 1990, there was a 5% difference.

Differences in the length of imposed prison sentences also increased after the implementation of guidelines (Table 3.8). In nonguideline cases during 1986, 1987, and 1988, the differences in average prison sentences imposed on blacks and whites remained roughly constant, although black offenders received slightly longer imprisonment sentences than whites. White offenders were sentenced to terms averaging 50 months in 1986, 1987, and 1988, while black offenders were sentenced to an average term of 52-months in 1986, and 54 months in both 1987 and 1988. In 1989 guideline cases, differences between black and white sentences widened dramatically. Whereas the average prison sentence meted out to whites in 1989 was 49 months long, blacks received terms averaging 67 months (a 37% difference). By 1990, the difference had grown to 52 months for whites and 77 months for blacks, a two-year, or 48%, difference.

As mentioned above, the largest source of this growing gap between blacks and whites was the sentencing for drug trafficking and weapons charges. Nearly identical sentences were imposed on black and white offenders sentenced in 1986 in non-guideline cases. In non-guideline cases brought to sentencing in 1987 and 1988, the sentences given to black traffickers began to grow more punitive,

Table 3.6

**Proportions of Convicted Offenders Sentenced to Incarceration, by Race/Ethnicity, in
Non-guideline Cases (1986-1988) and Guideline Cases (January 20, 1989 - June 30, 1990)**

Primary offense of conviction	Non-guideline cases									Guideline cases									White		
	White			Black			Hisp			White			Black			Hisp			White		
	1986	1986	1986	1987	1987	1987	1988	1988	1988	1988	1988	1988	1989	1989	1989	1990	1990	1990	1990	1990	1990
All offenses	52.1	51.8	65.9	57.9	57.5	73.9	52.2	52.4	65.9	72.1	80.0	86.3	70.7	75.9	82.9						
Violent offenses	78.0	83.4	86.7	78.5	86.5	83.0	68.3	79.6	80.9	92.5	95.4	92.6	92.2	95.4	94.6						
Murder/manslaughter	87.5	—	—	97.4	90.0	—	100.0	85.0	—	92.0	—	—	91.3	—	—						
Assault	40.4	41.5	74.6	40.9	60.5	71.7	36.7	48.4	55.6	58.9	81.7	79.3	64.1	85.2	—						
Robbery	94.6	97.0	93.7	94.7	97.0	94.4	90.9	94.4	95.2	99.1	98.9	97.7	99.0	97.9	100.0						
Rape	—	—	—	88.9	95.8	—	93.3	—	—	—	—	—	—	—	—						
Other sex offenses	48.4	—	—	55.4	73.1	—	39.6	—	—	71.2	—	...	72.5	—	—						
Kidnapping	96.2	—	—	100.0	—	—	90.5	—	—	100.0	—	—	—	—	—						
Other	79.2	—	—	74.1	—	—	—	—	—	—	—	—	—	—	—						
Property offenses	43.3	43.9	45.6	49.8	46.7	50.5	47.1	41.7	43.7	52.4	55.7	59.9	49.3	45.5	48.5						
Fraudulent offenses	41.5	41.5	43.0	48.8	45.0	48.9	46.3	39.9	42.1	52.1	56.6	59.3	49.8	43.9	46.5						
Embezzlement	29.2	27.1	17.0	31.8	29.4	24.6	33.3	25.3	30.8	29.3	32.4	23.8	26.6	21.1	37.5						
Fraud	45.0	43.4	46.5	52.7	49.7	53.0	50.4	44.6	41.9	59.6	63.8	61.5	58.6	52.8	44.4						
Forgery	41.5	46.0	49.1	53.6	47.7	57.1	46.9	42.5	59.2	60.2	66.3	70.0	55.6	49.6	65.5						
Counterfeiting	58.3	67.3	57.1	62.1	60.9	56.7	49.2	56.5	55.0	67.3	74.6	61.5	62.6	41.7	63.3						
Other offenses	48.6	48.9	53.6	53.0	50.3	55.2	50.0	45.8	48.5	52.9	54.0	62.4	48.1	49.0	61.4						
Burglary	76.9	75.0	—	87.9	82.8	—	78.9	88.1	—	96.1	94.1	—	90.6	95.0	—						
Larceny	39.5	45.8	50.0	43.2	47.0	54.3	40.4	42.2	46.8	44.3	50.5	51.3	37.6	42.4	52.7						
Motor vehicle theft	73.4	70.0	—	75.9	64.6	—	71.8	55.9	—	83.2	—	—	77.8	84.0	—						
Arson	—	—	—	—	—	...	—	—	—	—	—						
Transportation of stolen property	68.1	60.2	—	73.0	42.9	—	68.4	73.1	—	73.6	75.0	—	73.2	—	—						
Other property	21.3	33.3	—	23.5	45.5	—	28.1	31.8	—	29.5	—	—	—	—	—						
Drug offenses	75.7	76.0	83.0	77.9	82.8	83.5	73.6	81.5	84.9	85.6	94.1	92.9	85.6	92.4	92.9						
Trafficking	82.5	85.1	87.6	85.8	91.7	90.2	85.0	90.1	90.0	92.8	96.9	97.2	91.3	95.6	96.9						
Possession and other	23.7	24.8	46.2	22.9	33.5	38.8	18.4	29.9	24.3	33.3	51.1	50.5	27.9	49.6	50.3						
Public order offenses	37.6	36.7	53.9	41.5	40.0	66.3	37.8	36.9	47.4	65.3	76.4	81.4	68.2	77.1	82.3						
Regulatory offenses	32.5	22.8	41.5	34.9	28.1	51.1	33.6	23.3	48.0	44.5	47.8	68.5	47.8	50.0	67.4						
Weapons	60.1	74.7	63.2	66.3	80.0	73.0	61.0	79.0	69.0	79.9	92.2	83.2	75.3	89.8	85.1						
Immigration offenses	36.8	44.5	54.8	49.6	44.6	69.7	46.5	50.9	44.2	74.1	77.6	83.4	83.3	84.8	84.5						
Tax law violations	45.4	39.0	—	50.2	55.6	52.9	46.8	35.0	65.4	63.3	—	—	64.7	—	—						
Racketeering and extortion	78.1	84.2	85.0	77.4	80.4	76.9	75.1	90.0	73.3	83.4	84.0	95.0	79.0	85.2	—						
All other	23.7	23.1	49.5	25.5	24.4	54.7	23.1	21.7	38.8	57.8	62.8	75.5	67.5	63.2	85.0						

—Too few cases to obtain statistically reliable data.

... No cases of this type occurred in the data.

Table 3.7

**Number of Sentenced Offenders, by Race/Ethnicity, in
Non-guideline Cases (1986-1988) and Guideline Cases (January 20, 1989 - June 30, 1990)**

Primary offense of conviction	Non-guideline cases									Guideline cases					
	WHITE 1986	BLACK 1986	HISP 1986	WHITE 1987	BLACK 1987	HISP 1987	WHITE 1988	BLACK 1988	HISP 1988	WHITE 1989	BLACK 1989	HISP 1989	WHITE 1990	BLACK 1990	HISP 1990
All offenses	24,190	9,148	6,471	26,124	9,929	7,306	20,382	8,141	3,748	9,803	5,832	5,823	6,329	3,971	3,292
Violent offenses	951	596	165	1,152	639	159	819	422	89	757	373	95	451	240	56
Murder/manslaughter	32	17	8	38	20	8	35	20	6	25	18	13	23	8	11
Assault	171	130	59	193	157	60	139	126	27	73	60	29	39	27	9
Robbery	537	396	79	622	395	71	362	234	42	550	274	44	315	190	28
Rape	8	18	1	27	24	5	30	16	4	12	6	3	5	8	2
Other sex offenses	126	18	7	202	26	10	217	18	4	59	6	0	51	1	3
Kidnapping	53	12	10	43	14	3	21	6	5	21	7	4	8	5	3
Other	24	5	1	27	3	2	15	2	1	17	2	2	10	1	0
Property offenses	7,933	4,465	906	8,446	4,526	932	6,817	3,634	645	2,746	1,768	603	2,000	1,252	528
Fraudulent offenses	5,901	3,040	684	6,340	3,066	691	5,252	2,479	478	1,818	1,179	494	1,379	856	458
Embezzlement	1,365	587	112	1,379	677	122	1,164	581	117	508	309	42	380	218	32
Fraud	3,484	1,445	361	3,898	1,598	411	3,417	1,320	272	891	608	340	766	487	367
Forgery	798	953	169	715	727	98	409	532	49	211	199	60	126	127	29
Counterfeiting	254	55	42	348	64	60	262	46	40	208	63	52	107	24	30
Other offenses	2,032	1,425	222	2,106	1,460	241	1,565	1,155	167	928	589	109	621	396	70
Burglary	78	64	13	107	93	15	76	42	3	51	34	1	32	20	2
Larceny	1,221	1,190	176	1,302	1,201	199	957	980	141	662	513	78	452	340	55
Motor vehicle theft	271	60	8	295	65	7	238	59	9	95	7	14	63	25	7
Arson	14	4	1	13	12	0	8	0	0	4	1	1	1	0	0
Transportation of stolen property	298	83	11	270	56	7	190	52	8	72	20	10	56	9	5
Other property	150	24	13	119	33	13	96	22	6	44	14	5	17	2	1
Drug offenses	6,998	2,002	2,733	8,639	2,658	3,932	5,726	2,023	1,833	4,028	2,851	3,525	2,464	1,973	1,822
Trafficking	6,189	1,699	2,428	7,554	2,249	3,424	4,744	1,735	1,693	3,538	2,677	3,204	2,245	1,836	1,663
Possession and other	809	303	305	1,085	409	508	982	288	140	490	174	321	219	137	159
Public order offenses	8,308	2,085	2,667	7,886	2,106	2,283	7,019	2,062	1,181	2,272	840	1,600	1,414	506	886
Regulatory offenses	1,568	351	246	1,493	320	221	1,257	326	127	530	113	149	320	68	89
Weapons	1,089	403	174	1,120	414	248	916	381	129	706	387	155	498	256	94
Immigration offenses	489	119	1,918	397	112	1,456	254	55	624	274	67	1,164	162	33	618
Tax law violations	1,285	100	12	1,275	108	34	1,186	137	26	60	8	6	51	5	7
Racketeering and extortion	521	57	40	492	56	39	406	80	30	145	50	20	81	27	18
All other	3,356	1,055	277	3,109	1,096	285	3,000	1,083	245	557	215	106	302	117	60

- Too few cases to obtain statistically reliable data.

... No cases of this type occurred in the data.

Table 3.8

**Average Length of Incarceration Sentence Imposed (in Months), by Race/Ethnicity, in
Non-guideline Cases (1986-1988) and Guideline Cases (January 20, 1989 - June 30, 1990)**
(Offenders Sentenced to Prison Only)

Primary offense of conviction	Non-guideline cases									Guideline cases																																			
	WHITE 1986			BLACK 1986			HISP 1986			WHITE 1987			BLACK 1987			HISP 1987			WHITE 1988			BLACK 1988			HISP 1988			WHITE 1989			BLACK 1989			HISP 1989			WHITE 1990			BLACK 1990			HISP 1990		
	1986	1986	1986	1987	1987	1987	1988	1988	1988	1989	1989	1989	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990													
All offenses	50.1	51.7	44.9	50.2	54.1	50.1	50.4	54.4	66.3	49.3	67.4	48.2	52.2	76.8	47.2																														
Violent offenses	126.3	149.9	103.3	114.9	128.4	104.4	122.6	128.6	128.6	85.1	96.9	90.0	86.0	107.9	78.8																														
Murder/manslaughter	154.3	—	—	176.4	—	—	188.4	—	—	156.0	—	—	83.0	—	—																														
Assault	61.2	56.1	35.0	32.3	39.4	69.1	53.5	35.6	—	34.5	44.5	34.8	52.4	56.5	—																														
Robbery	142.8	157.5	119.1	130.8	149.3	120.3	146.5	153.4	151.7	87.3	101.3	94.5	95.0	108.2	78.0																														
Rape	—	—	—	70.2	127.5	—	97.4	—	—	—	—	—	—	—	—																														
Other sex offenses	54.4	—	—	42.3	50.0	—	43.3	—	—	38.8	—	...	28.7	—	—																														
Kidnapping	155.2	—	—	250.9	—	—	—	—	—	160.5	—	—	—	—	—																														
Other	33.8	—	—	46.4	—	—	—	—	...	—	—	—	—	—	...																														
Property offenses	34.8	29.7	30.0	35.5	30.8	31.3	34.9	27.1	33.3	17.5	14.7	10.6	17.9	16.6	10.0																														
Fraudulent offenses	32.5	27.7	28.5	33.0	26.4	29.4	32.8	23.8	28.2	14.8	12.8	9.8	15.7	12.1	8.1																														
Embezzlement	21.1	16.3	—	25.4	18.1	24.5	24.9	15.8	34.0	10.2	6.3	—	11.4	5.9	—																														
Fraud	33.8	30.7	25.7	33.5	27.7	29.5	33.2	23.1	26.9	14.9	14.9	7.3	17.3	14.1	6.7																														
Forgery	34.8	27.8	36.3	37.9	28.1	30.8	47.3	29.1	25.9	17.5	10.4	16.3	14.5	9.0	—																														
Counterfeiting	43.6	23.0	23.3	34.4	27.3	31.0	30.8	41.1	28.6	16.9	15.6	17.0	12.8	—	—																														
Other offenses	40.5	33.5	33.9	42.4	39.0	36.1	41.2	33.1	45.8	22.6	18.8	14.3	22.9	25.4	19.5																														
Burglary	71.4	75.9	—	78.2	110.1	—	72.8	60.7	—	46.7	49.4	—	39.3	—	—																														
Larceny	33.9	30.0	31.4	37.8	29.2	35.1	35.9	28.3	45.2	19.4	13.0	11.7	20.9	20.9	17.4																														
Motor vehicle theft	47.4	30.5	—	43.7	34.4	—	36.0	39.2	—	17.0	—	—	22.6	13.9	—																														
Arson	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																														
Transportation of stolen property	42.6	36.2	—	41.2	51.0	—	53.3	55.8	—	27.8	—	—	22.9	—	—																														
Other property	20.7	—	—	17.7	—	—	22.7	—	—	—	—	—	—	—	—																														
Drug offenses	58.9	56.9	58.6	59.5	63.9	63.0	63.7	70.9	83.2	64.1	89.7	64.8	73.9	98.0	65.3																														
Trafficking	60.2	58.7	60.0	61.0	66.7	64.6	65.6	74.1	84.8	66.7	92.2	67.8	75.7	101.1	68.1																														
Possession and other	23.0	23.0	36.9	22.1	22.0	37.6	20.7	13.1	10.2	12.8	17.1	7.2	11.8	17.3	8.4																														
Public order offenses	34.3	34.8	21.6	32.4	39.0	23.2	32.7	40.7	28.5	28.7	38.2	14.0	25.3	47.5	15.9																														
Regulatory offenses	41.9	37.1	34.3	31.6	65.2	41.4	36.3	21.4	37.3	24.8	15.1	17.2	21.3	30.3	15.4																														
Weapons	39.1	45.8	32.3	48.1	54.6	32.0	50.6	59.5	49.3	36.4	52.1	35.6	35.4	61.0	51.4																														
Immigration offenses	17.4	16.9	15.9	15.2	17.5	17.9	14.1	19.2	14.2	10.9	8.5	9.4	10.2	10.5	8.4																														
Tax law violations	17.3	19.6	—	19.3	28.0	—	18.9	26.2	—	40.8	—	—	13.8	—	—																														
Racketeering and extortion	84.5	74.5	121.5	58.7	53.9	73.0	67.6	79.1	121.3	51.7	50.7	—	48.5	85.7	—																														
All other	16.2	18.9	22.1	20.2	14.9	23.1	15.0	16.6	21.6	19.2	18.5	17.1	14.4	15.9	24.1																														

—Too few cases to obtain statistically reliable data

... No cases of this type occurred in the data

Table 3.9

**Number of Offenders Sentenced to Incarceration, by Race/Ethnicity, in
Non-guideline Cases (1986-1988) and Guideline Cases (January 20, 1989 - June 30, 1990)**

Primary offense of conviction	Non-guideline cases									Guideline cases																																			
	WHITE 1986			BLACK 1986			HISP 1986			WHITE 1987			BLACK 1987			HISP 1987			WHITE 1988			BLACK 1988			HISP 1988			WHITE 1989			BLACK 1989			HISP 1989			WHITE 1990			BLACK 1990			HISP 1990		
	1986	1986	1986	1987	1987	1987	1988	1988	1988	1989	1989	1989	1990	1990	1990	1989	1989	1989	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990													
All offenses	12,600	4,741	4,262	15,115	5,709	5,401	10,640	4,262	2,471	7,069	4,667	5,026	4,476	3,013	2,730	742	497	143	904	553	132	559	336	72	700	356	88	416	229	53															
Violent offenses																																													
Murder/manslaughter	28	15	8	37	18	8	35	17	5	23	16	13	21	7	10	69	54	44	79	95	43	51	61	15	43	49	23	25	23	8															
Assault																																													
Robbery	508	384	74	589	383	67	329	221	40	545	271	43	312	186	28	508	384	74	589	383	67	329	221	40	545	271	43	312	186	28															
Rape	6	17	1	24	23	4	28	15	4	10	5	3	5	6	2	6	17	1	24	23	4	28	15	4	10	5	3	5	6	2															
Other sex offenses	61	14	5	112	19	5	86	15	3	42	6	0	37	1	2	61	14	5	112	19	5	86	15	3	42	6	0	37	1	2															
Kidnapping	51	11	10	43	13	3	19	6	5	21	7	4	8	5	3	51	11	10	43	13	3	19	6	5	21	7	4	8	5	3															
Other	19	2	1	20	2	2	11	1	0	16	2	2	8	1	0	19	2	1	20	2	2	11	1	0	16	2	2	8	1	0															
Property offenses	3,434	1,958	413	4,207	2,113	471	3,214	1,517	282	1,438	985	361	986	570	256	3,434	1,958	413	4,207	2,113	471	3,214	1,517	282	1,438	985	361	986	570	256															
Fraudulent offenses	2,446	1,261	294	3,091	1,379	338	2,431	988	201	947	667	293	687	376	213	2,446	1,261	294	3,091	1,379	338	2,431	988	201	947	667	293	687	376	213															
Embezzlement	398	159	19	439	199	30	388	147	36	149	100	10	101	46	12	398	159	19	439	199	30	388	147	36	149	100	10	101	46	12															
Fraud	1,569	627	168	2,053	794	218	1,722	589	114	531	388	209	449	257	163	1,569	627	168	2,053	794	218	1,722	589	114	531	388	209	449	257	163															
Forgery	331	438	83	383	347	56	192	226	29	127	132	42	70	63	19	331	438	83	383	347	56	192	226	29	127	132	42	70	63	19															
Counterfeiting	148	37	24	216	39	34	129	26	22	140	47	32	67	10	19	148	37	24	216	39	34	129	26	22	140	47	32	67	10	19															
Other offenses	988	697	119	1,116	734	133	783	529	81	491	318	68	299	194	43	988	697	119	1,116	734	133	783	529	81	491	318	68	299	194	43															
Burglary	60	48	10	94	77	12	60	37	3	49	32	1	29	19	2	60	48	10	94	77	12	60	37	3	49	32	1	29	19	2															
Larceny	482	545	88	563	565	108	387	414	66	293	259	40	170	144	29	482	545	88	563	565	108	387	414	66	293	259	40	170	144	29															
Motor vehicle theft	199	42	8	224	42	3	171	33	3	79	6	14	49	21	6	199	42	8	224	42	3	171	33	3	79	6	14	49	21	6															
Arson	12	4	1	10	11	0	8	0	0	4	1	0	1	0	0	12	4	1	10	11	0	8	0	0	4	1	0	1	0	0															
Transportation of stolen property	203	50	8	197	24	5	130	38	7	53	15	9	41	9	5	203	50	8	197	24	5	130	38	7	53	15	9	41	9	5															
Other property	32	8	4	28	15	5	27	7	2	13	5	4	9	1	1	32	8	4	28	15	5	27	7	2	13	5	4	9	1	1															
Drug offenses	5,297	1,521	2,268	6,727	2,200	3,285	4,213	1,649	1,557	3,447	2,684	3,275	2,110	1,824	1,692	5,297	1,521	2,268	6,727	2,200	3,285	4,213	1,649	1,557	3,447	2,684	3,275	2,110	1,824	1,692															
Trafficking	5,105	1,446	2,127	6,479	2,063	3,088	4,032	1,563	1,523	3,284	2,595	3,113	2,049	1,756	1,612	5,105	1,446	2,127	6,479	2,063	3,088	4,032	1,563	1,523	3,284	2,595	3,113	2,049	1,756	1,612															
Possession and other	192	75	141	248	137	197	181	86	34	163	89	162	61	68	80	192	75	141	248	137	197	181	86	34	163	89	162	61	68	80															
Public order offenses	3,127	765	1,438	3,276	843	1,513	2,653	760	560	1,484	642	1,302	964	390	729	3,127	765	1,438	3,276	843	1,513	2,653	760	560	1,484	642	1,302	964	390	729															
Regulatory offenses	509	80	102	521	90	113	422	76	61	236	54	102	153	34	60	509	80	102	521	90	113	422	76	61	236	54	102	153	34	60															
Weapons	654	301	110	743	331	181	559	301	89	564	357	129	375	230	80	654	301	110	743	331	181	559	301	89	564	357	129	375	230	80															
Immigration offenses	180	53	1,051	197	50	1,015	118	28	276	203	52	971	135	28	522	180	53	1,051	197	50	1,015	118	28	276	203	52	971	135	28	522															
Tax law violations	583	39	4	640	60	18	555	48	17	38	2	1	33	1	2	583	39	4	640	60	18	555	48	17	38	2	1	33	1	2															
Racketeering and extortion	407	48	34	381	45	30	305	72	22	121	42	19	64	23	14	407	48	34	381	45	30	305	72	22	121	42	19	64	23	14															
All other	794	244	137	794	267	156	694	235	95	322	135	80	204	74	51	794	244	137	794	267	156	694	235	95	322	135	80	204	74	51															

compared to white traffickers. In 1988, 90% of all black traffickers were sentenced to imprisonment, compared with 85% of white traffickers, and the length of black's imprisonment sentences averaged 13%—or 8 months—longer. In guidelines cases sentenced during 1989, however, the difference in average sentence length for drug trafficking grew to 38%; in the first half of 1990, there was a 34% difference (Table 3.8).

Changes in the sentencing of Hispanics followed a different course. During 1986, Hispanics having non-guideline cases received average prison sentences that were shorter than sentences received by whites (45 and 50 months, respectively). In 1987, they were nearly identical, but in the following year, Hispanics' sentences averaged 32% longer than whites' sentences. This was the result of a large difference in the sentencing of drug offenders that year. However, in guidelines cases disposed during 1989 and 1990, the 1986-1987 pattern reappeared: sentences for Hispanic offenders again averaged a few months shorter than those for whites.²

Changing Distributions of Offenders Convicted of Different Offenses

The racial/ethnic differences in sentencing were larger in guideline cases in part because during 1989-1990 a larger proportion of blacks were convicted of offenses that were sentenced especially severely than in earlier years. For example, the proportion of black offenders sentenced for drug trafficking—a severely punished offense—grew from 19% of all convicted blacks in 1986 to 46% in 1990. This was the single most dramatic shift for blacks, because the proportions convicted of robbery and weapons charges—other heavily punished crimes—remained constant. The proportions of white offenders convicted of drug trafficking increased as well: from 26% of all whites convicted in 1986, to 35% in the first half of 1990. The proportion of Hispanics convicted of drug trafficking was large throughout the 1986-1990 period, and increased from 38% in 1986 to 51% in 1990.

To assess the extent to which the aggregate comparison of sentencing before and after implementation of the guidelines was affected by a changed distribution of offenders convicted of particular types of crimes, we computed what the differences would have been if the number of whites,

² In comparing sentences before and after the end of 1988 in these tables, it is important to remember that what appears to be a wholesale shortening of prison sentences in 1989-90 for most crimes is really an artifact of the change in what a prison sentence entails. Prison sentences in non-guideline cases were typically longer than in guideline cases because they were imposed under the assumption that offenders could be released to parole supervision much in advance of the maximum sentence. The Sentencing Reform Act abolished parole release, and sentences subject to guidelines are imposed with the requirement that they be served in full, except for a small discount for good behavior in prison (a maximum of 15% of imposed sentences).

blacks, and Hispanics convicted in each category of offenses during the first half of 1990 had not changed since 1986, but if each offender had received the average sentence imposed for his offense category in 1990.³ Table 3.10 shows the length of prison sentences actually imposed on whites, blacks, and Hispanics in 1986, and in the first half of 1990, with the computed distribution of sentences in 1990 that would have occurred if the numbers of offenders sentenced in each category of offense had not changed since 1986.

Had the numbers of whites, blacks, and Hispanics not changed, the difference in *average* prison sentences given to whites and blacks would have been substantially smaller than it was in actuality. (This can be seen by comparing the numbers for all offenders, by race/ethnicity, in the first row of Table 3.10). All blacks convicted of Federal offenses would have received sentences averaging 8 months longer than whites, as opposed to the 25-month difference in actual sentences imposed in 1990. However, this changing distribution of convicted offenders only affects the comparison overall—or aggregate—averages. The sentencing differences seen in guidelines cases for specific types of offenses would have been unchanged. To explain why whites, blacks, and Hispanics were sentenced differently for the same type of crime, a more intensive analysis of sentencing decisions for these specific offenses was undertaken.

³ This computation does not address the effects of changes in distribution *within* categories shown in Table 3.6. For example, drug trafficking is treated as one category. Subsequent chapters show that changes in types of drug were a significant factor in explaining sentencing patterns under the guidelines.

Table 3.10

**How Differences in Average Prison Sentences in 1990
for Whites, Blacks and Hispanics Would Have Compared with 1986
Had the Number of Offenders Convicted of Specific Crimes Not Changed
(Persons Sentenced to Prison Only)**

<u>Primary offense of conviction</u>	<u>Average length (in months) of prison sentence</u>								
	<u>1986</u>			<u>Computed 1990, assuming no change since 1986 in numbers of offenders^a</u>			<u>Actual 1990</u>		
	<u>White</u>	<u>Black</u>	<u>Hispanic</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
All offenses	50.1	51.7	44.9	46.8	54.9	42.7	52.2	76.8	47.2
Violent offenses	126.3	149.9	103.3	91.3	107.0	68.4	86.0	107.9	78.8
Property offenses	34.8	29.7	30.0	17.6	15.6	12.0	17.9	16.6	10.0
Fraudulent offenses	32.5	27.7	28.5	15.7	11.2	9.0	15.7	12.1	8.1
Other offenses	40.5	33.5	33.9	22.3	23.7	19.5	22.9	25.4	19.5
Drug offenses	58.9	56.9	58.6	73.4	97.0	64.4	73.9	98.0	65.3
Public order offenses	34.3	34.8	21.6	23.1	37.6	14.6	25.3	47.5	15.9
Regulatory offenses	41.9	37.1	34.3	20.8	30.5	15.1	21.3	30.3	15.4
Other offenses	32.8	34.5	20.7	23.5	38.4	14.6	26.1	49.1	15.9

Note: 1990 cases only include those offenders who were sentenced during the first six months of that year and were subject to guidelines. 1986 cases include all persons sentenced that year.

^a Computed by multiplying the average 1990 prison sentence, in months, for each offense category as shown in Table 3.6, by the number of offenders sentenced for that type of offense in 1986.

Accounting for Sentencing Differences Under the Guidelines: A Multivariate Analysis

The differences in sentences imposed upon whites, blacks, and Hispanics convicted of the same types of crimes suggest that some of the observed variation stems from the fact whites, blacks and Hispanics differ in ways that lead judges to impose harsher or more lenient sentences on them. Congress and the Sentencing Commission have declared that sentencing severity should reflect, in part, differences in the offenders' criminal histories and the gravity of the crime, and any variation in sentencing that results from these differences would be considered legitimate. For example, current policy finds it desirable that sentences vary according to the amount of drugs sold, money stolen, weapon used, the extent of injury to victims, and the offender's relative culpability. Because being white, black or Hispanic may be correlated with these and other features legitimately considered at sentencing, what appears in the aggregate to be a racial bias may stem from a difference among offenders that is uncontroversially relevant to the sentencing decision.

Of greater concern are variations in sentencing that cannot be attributed to any legitimately considered differences among offenders. Although reasonable people may differ in whether they consider one or another source of variation to be legitimate, Congress, the Sentencing Commission, and case law have established a clear policy on most issues. Legitimately considered features include the offense of conviction, the elements of the offense as alleged (the "real offense"), the offender's role in the offense, his or her criminal history, dependence on crime for a livelihood, and any extraordinary physical impairment. In addition, shorter sentences may be given to those who plead guilty rather than exercise their right to trial, ostensibly because such persons have "accepted responsibility" for their crimes. Shorter sentences were also explicitly permitted for persons who provide "substantial assistance" to prosecutors, helping to make cases against others.

Explicitly prohibited considerations are the offender's race, gender, national origin, creed, religion, and socioeconomic status. Attention to a number of other features is not prohibited in all cases, but judges are strongly discouraged from basing sentencing decisions upon them because they are "not ordinarily relevant" to sentencing. These include the offender's community ties, families ties and responsibilities, employment record, physical condition, drug dependence, alcohol abuse history, mental and emotional condition, education and vocational skills, and age (U.S. Sentencing Commission, 1990:

Chapter Five, Parts H and K). Whether sentencing may be permitted to differ by geographical region--or by Federal circuit—is not explicitly indicated. It would seem that geographical variation would have to be seen as illegitimate to the extent that it does not reflect differences in offenders explicitly recognized as legitimate.

To explore whether sentencing decisions were affected by characteristics deemed to be unwarranted, more intensive analysis was conducted on populations of offenders convicted of the same types of crimes.

The Offenses Studied

The analysis of sentencing decisions was focussed on six types of offenses: bank robbery, drug trafficking, weapons, embezzlement, fraud, and larceny. Offenders convicted of these six constituted 73% of all offenders in Federal cases in the district courts during this period and 71% of all offenders sentenced to prison. The six include crimes of violence, property and white collar crimes, and the most common type of Federal crime charged during this period: drug trafficking offenses.

These six were chosen for several reasons. First, racial/ethnic differences were pronounced in the sentencing of persons convicted of the first three crimes. There were also large numbers of offenders convicted of these crimes. Much of the racial/ethnic difference seen at the aggregate level can be traced to differences in how offenders charged with these offenses were sentenced, as shown in Chapter 3 (Table 3.5).

We also chose to analyze three other types of offenses—embezzlement, fraud, and larceny—to determine if there was any evidence of racial or ethnic disparity in sentencing for these crimes. Although there were small differences in the proportions of whites, blacks, and Hispanics sentenced to imprisonment for these offenses, there were larger differences in the average length of sentences imposed. However, in these crime categories, the longer sentences were given to *whites*.

The relationship of these selected offenders to the larger population of Federal offenders sentenced during this period is shown in Table 4.1. Those categories shown in bold refer to the six selected for intensive analysis. All offenders convicted of embezzlement, fraud, larceny and weapons were included. Because the large majority of all robbers were convicted of bank robbery, we excluded a small number of offenders convicted of other robberies (e.g., committing a robbery on Federal property). Among drug traffickers, persons convicted of trafficking in crack, powdered cocaine, heroin, marijuana, and other controlled substances were analyzed separately. The small number of offenders convicted only of drug possession were excluded.

Table 4.1

**Offenders Convicted of Crimes Studied Here and Their Relationship to
All Offenders Sentenced in Guideline Cases, by Offense of Conviction
and Offender's Race/Ethnicity (January 20, 1989 - June 30, 1990)**

<u>Primary offense of conviction</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
All offenses	16,132 (100%)	9,803 (100%)	9,115 (100%)
Violent offenses	1,208 (7.5%)	613 (6.3%)	151 (1.7%)
Murder/manslaughter	48 (.3%)	26 (.3%)	24 (.3%)
Assault	112 (.7%)	87 (.9%)	38 (.4%)
Robbery	865 (5.4%)	464 (4.7%)	72 (.8%)
Bank robbery	850 (5.3%)	447 (4.6%)	66 (.7%)
Other robbery	15 (.1%)	17 (.2%)	6 (.1%)
Rape	17 (.1%)	14 (.1%)	5 (.1%)
Other sex offenses	110 (.7%)	7 (.1%)	3 (0%)
Kidnapping	29 (.2%)	12 (.1%)	7 (.1%)
Other	27 (.2%)	3 (0%)	2 (0%)
Property offenses	4,746 (29.4%)	3,020 (30.8%)	1,131 (12.4%)
Fraudulent offenses	3,197 (19.8%)	2,035 (20.8%)	952 (10.4%)
Embezzlement	888 (5.5%)	527 (5.4%)	74 (.8%)
Fraud	1,657 (10.3%)	1,095 (11.2%)	707 (7.8%)
Forgery	337 (2.1%)	326 (3.3%)	89 (1.0%)
Counterfeiting	315 (2.0%)	87 (.9%)	82 (.9%)
Other offenses	1,549 (9.6%)	985 (10.0%)	179 (2.0%)
Burglary	83 (.5%)	54 (.6%)	3 (0%)
Larceny	1,114 (6.9%)	853 (8.7%)	133 (1.5%)
Motor vehicle theft	158 (1.0%)	32 (.3%)	21 (.2%)
Arson	5 (0%)	1 (0%)	1 (0%)
Transportation of stolen property	128 (.8%)	29 (.3%)	15 (.2%)
Other property	61 (.4%)	16 (.2%)	6 (.1%)
Drug offenses	6,492 (40.2%)	4,824 (49.2%)	5,347 (58.7%)
Trafficking	5,783 (35.8%)	4,513 (46.0%)	4,867 (53.4%)
Cocaine	2,870 (17.8%)	3,219 (32.8%)	2,094 (23.0%)
Crack	113 (.7%)	862 (8.8%)	72 (.8%)
Powder	2,394 (14.8%)	1,687 (17.2%)	1,788 (19.6%)
Undetermined cocaine	363 (2.3%)	670 (6.8%)	234 (2.6%)
Heroin	303 (1.9%)	597 (6.1%)	428 (4.7%)
Marijuana	1,074 (6.7%)	126 (1.3%)	1,914 (21.0%)
Other controlled substances	179 (1.1%)	8 (.1%)	21 (.2%)
Other trafficking	1,357 (8.4%)	563 (5.7%)	410 (4.5%)
Possession and other	709 (4.4%)	311 (3.2%)	480 (5.3%)
Public order offenses	3,686 (22.8%)	1,346 (13.7%)	2,486 (27.3%)
Regulatory offenses	850 (5.3%)	181 (1.8%)	238 (2.6%)
Weapons	1,204 (7.5%)	643 (6.6%)	249 (2.7%)
Immigration offenses	436 (2.7%)	100 (1.0%)	1,782 (19.6%)
Tax law violations	111 (.7%)	13 (.1%)	13 (.1%)
Racketeering and extortion	226 (1.4%)	77 (.8%)	38 (.4%)
All other	859 (5.3%)	332 (3.4%)	166 (1.8%)

Table 4.2 shows for these selected six offenses the proportions of offenders sentenced in guidelines cases to imprisonment terms between January 20, 1989, and June 30, 1990, separately for whites, blacks, and Hispanics. Table 4.3 shows the numbers of offenders imprisoned and average length of prison sentences for the six selected offense categories and persons convicted of all other types of crimes.

Statistical Analysis of Sentencing Outcomes: Our Approach

Our study was principally designed as a test of the null hypothesis: that no significant differences among whites, blacks, and Hispanics existed in sentences imposed once legitimately considered characteristics of the crime and the offender were taken into account. If a statistically significant correlation between the offender's race/ethnicity was found after imposing statistical controls for as many other legitimately considered differences as could be measured, we would conclude that evidence of racial/ethnic disparities may exist. In addition, we are able to test if evidence of other types of unwarranted disparities exists—such as differences associated with the offender being a man or a woman, or with being prosecuted in one geographical region rather than another.

Dependent variables

Sentences are characterized by two dependent variables: a dichotomy indicating whether the offender was incarcerated, and for those who were, a measure of the length of prison sentence imposed. We decided to analyze these two variables separately, rather than as a single measure, for both theoretical and empirical reasons.

First, one can think of the plea negotiation and/or sentencing decision as sequentially determining the kind of sentence to be imposed and then the magnitude of that sentence. In this study, the choice analyzed is limited to whether the offender will serve time, and if so, how much time. Racial or ethnic discrimination could potentially occur at either of these stages. Combining the two components of the sentencing decision posed the possibility that some patterns of discrimination might be obscured. For example, we found that certain classes of Hispanic fraud offenders were usually incarcerated for short periods of time, while non-Hispanic offenders convicted of somewhat different offenses were less likely to be incarcerated, but if incarcerated, received longer terms. A joint measure combining sentence type with length might not detect such a difference.

Second, an examination of the distributions of sentence lengths showed that the pattern of imposed sentences was more nearly consistent with a sequential decision process than with the model one would usually employ to analyze a joint decision. The leading candidate for a joint decision model is a tobit

Table 4.2
Proportion Sentenced To Prison:
Guideline Cases only (January 20, 1989 - June 30, 1990)

<u>Primary offense of conviction</u>	White		Black		Hispanic	
	N	%	N	%	N	%
All offenses	16,132	71.6	9,803	78.3	9,115	85.1
Bank robbery	850	99.2	447	98.4	66	98.5
Other robbery	15	93.3	17	100.0	6	100.0
Embezzlement	888	28.2	527	27.7	74	29.7
Fraud	1,657	59.1	1,095	58.9	707	52.6
Larceny	1,114	41.6	853	47.2	133	51.9
Drug trafficking	5,783	92.2	4,513	96.4	4,867	97.1
Cocaine	2,870	94.1	3,219	96.7	2,094	97.9
Crack	113	99.1	862	99.0	72	100.0
Powder	2,394	95.1	1,687	96.3	1,788	98.4
Undetermined cocaine	363	86.0	670	94.8	234	93.2
Heroin	303	95.1	597	97.2	428	97.2
Marijuana	1,074	89.0	126	88.1	1,914	95.2
Other controlled substances	179	97.8	8	100.0	21	90.5
Other trafficking	1,357	90.0	563	95.9	410	94.9
Weapons	1,204	78.0	643	91.3	249	83.9
Immigration offenses	436	77.5	100	80.0	1,782	83.8
All other offenses	4,185	57.0	1,608	62.9	1,231	64.6

Table 4.3

**Numbers and Mean Length of Prison Sentences (in Months):
Offenders Sentenced January 20, 1989 - June 30, 1990
By Offender's Race/Ethnicity and Offense of Conviction**

<u>Primary offense of conviction</u>		White		Black		Hispanic
	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>	<u>N</u>	<u>Mean</u>
All offenses	11,545	50.4 mo	7,680	71.1 mo	7,756	47.8 mo
Bank robbery	843	90.3	440	104.7	65	91.8
Other robbery	14	76.3	17	88.9	6	46.8
Embezzlement	250	10.7	146	6.2	22	9.1
Fraud	980	16.0	645	14.6	372	7.0
Larceny	463	19.9	403	15.8	69	14.1
Drug trafficking	5,333	70.2	4,351	95.8	4,725	67.9
Cocaine	2,700	74.4	3,113	101.7	2,049	96.1
Crack	112	129.9	853	140.1	72	162.1
Powder	2,276	71.3	1,625	73.2	1,759	94.7
Undetermined cocaine	312	77.1	635	123.1	218	85.6
Heroin	288	85.8	580	85.4	416	61.0
Marijuana	949	50.5	110	42.7	1,852	41.3
Other controlled substances	175	111.6	8	132.5	19	87.3
Other trafficking	1,221	66.6	540	83.2	389	52.4
Weapons	939	36.0	587	55.6	209	41.6
Immigration offenses	338	10.6	80	9.2	1,493	9.1
All other offenses	2,385	27.5	1,011	31.0	795	22.3

distribution. That is, the analyst would assume that each sentencing decision was based on a score (which could not be observed) following some specified distribution. Offenders scoring below a threshold on this scale would not be imprisoned; those above the threshold would receive prison sentences equal to their score. Under this model, the observed distribution of prison sentences would correspond to the right-hand end of the assumed (but unobserved) underlying distribution of scores. Lower incarceration rates would correspond to higher relative thresholds, truncating more observations from the distribution.

In fact, the data bear little resemblance to this model. Figure 4.1 shows two smoothed histograms comparing the distribution of observed sentences imposed on offenders convicted of bank robbery and embezzlement. Nearly all bank robbers are sentenced to prison; most embezzlers are not. Under a tobit model, one would expect the distribution of embezzlement sentences to look approximately like the right-hand half of the distribution of bank robbery sentences. Instead, the two distributions look very similar. The distribution of bank robbery sentences is located substantially to the right of the distribution of embezzlement sentences (sentences are longer), and it is slightly broader than the embezzlement distribution (sentences are more variable), but both figures show approximately the shape of a complete log-normal distribution.¹

Figure 4.1 shows the marginal distributions of sentence length, without considering any of the factors that might affect sentencing decisions. In tobit regression, the distributional assumptions refer to the distributions of sentence length at specified levels of the covariate variables. It might be suggested that although the marginal distributions are inconsistent with a tobit model, the conditional distributions do show truncation. That this is not the case is indicated by Figure 4.2, which shows the conditional distribution of sentence length for embezzlement at each of seven levels of dollar value for property converted in the offense. The distributions are generally quite symmetrical, and provide no indication of truncation.

We interpret these results as strong support for the sequential decision model. The separate analyses presented here model the decision of whether to incarcerate as a logistic function of the independent variables. The length of sentence is modeled separately only for those actually incarcerated.

¹ The actual distributions are very irregular, with observations clumping at fractions and round numbers of years. For embezzlement, modes occur at 6, 12, and 18 months. For bank robbery, there are several modes, including 24, 36, 60, and 120 months. The figures show smooth curves fitted by OLS to the empirical distributions. The smoothing formula used for Figure 4.1 made no assumptions about symmetry or truncation of the distributions. The curves are drawn from a family which includes all truncated and complete log-normal distributions, as well as other shapes.

Figure 4.1

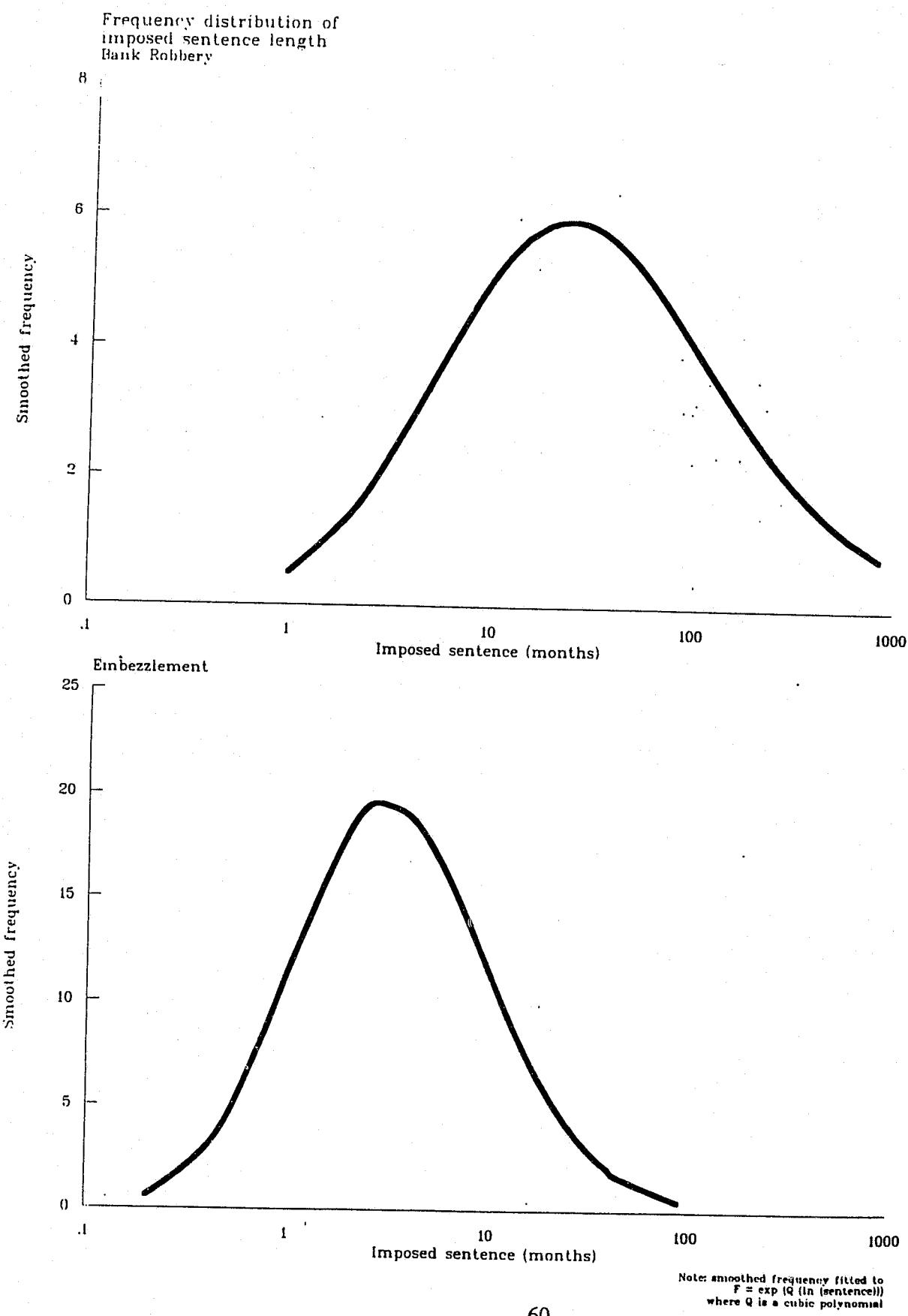
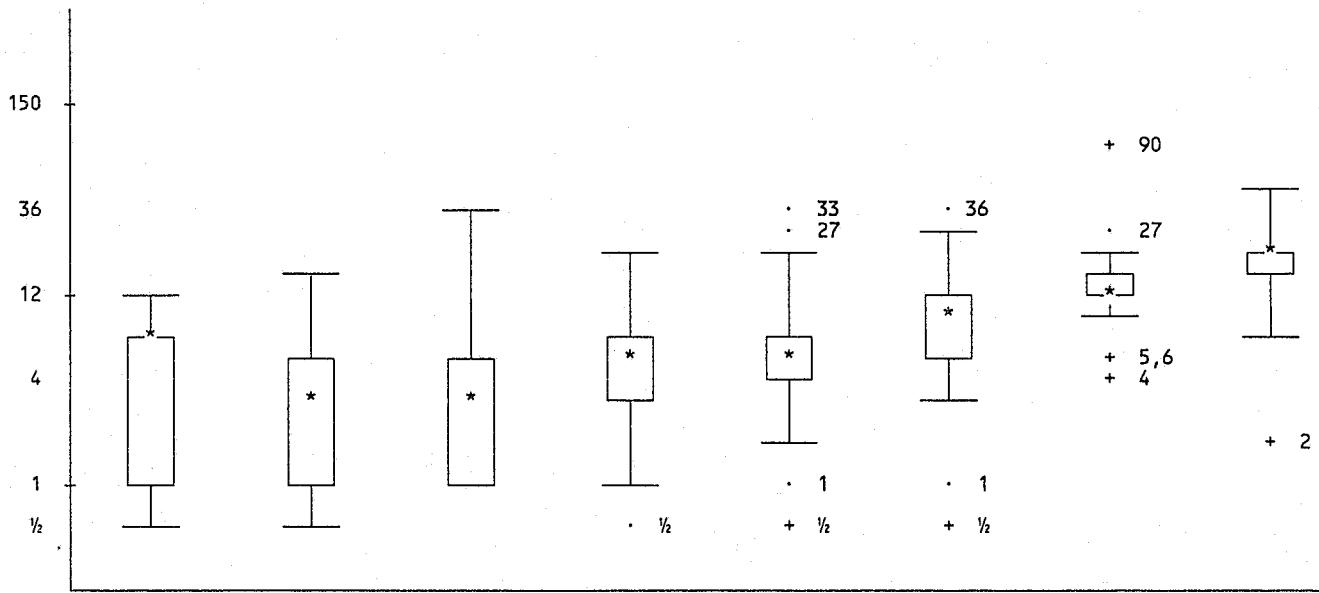


Figure 4.2

Conditional frequency distributions of
Length of imposed prison sentence by approximate dollar value embezzled

**Length of imposed prison
sentence in months (log scale)**

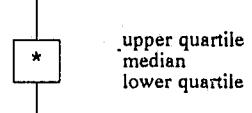


Approximate dollar value of property embezzled

	none	1000	3000	8000	22000	60000	160000	440000
N of Cases	5	35	25	44	169	75	41	22

Key:

• 27 outlier (and actual number of months)



upper quartile
median
lower quartile

+ ½ extreme observation (and actual number of months)

This approach corresponds to the observed patterns of the data, and provides a detailed description of both stages of the decision process.

Use of Transformed Data for Length of Sentence

All regressions on length of imposed sentence use the natural logarithm of the sentence as the dependent variable.² This transformation is suggested both by the data and by a theoretical analysis of the structure of the guidelines.

Structure of the Guidelines Table

The Sentencing Reform Act of 1984 mandated that guidelines be developed that scaled sentence severity to the gravity of the offender's crimes and criminal record. The U.S. Sentencing Commission responded by defining 40 "base offense levels," ranging between 4 for the least serious crime to 43 for the most serious. All Federal offenses were then classified according to their relative gravity, so that each convicted offender could be scored as to his or her offense level score. In addition, an individual offender's criminal record is scored according to formally established rules, and the resulting criminal history points determine which of six criminal history categories the individual is to be assigned. Using these two dimensions, a sentencing guidelines table was created to specify the recommended sentencing range, measured in the number of months to be imposed as an imprisonment sentence. The vertical axis indicates the offense level, and the criminal history categories are displayed along the horizontal axis. The resulting matrix has 240 cells, each indicating the minimum and maximum number of months in prison to be imposed.

The Sentencing Reform Act of 1984 also specified that the maximum sentence an offender could receive for a particular combination of offense level and criminal history score should generally not exceed the minimum by 25% or 6 months, whichever was greater [28 U.S.C. 994(b)(2)]. As translated into guideline tables, this meant that in cells with lower limits over 24 months the range between upper and lower limits would be approximately proportional to the lower limit. The guidelines table is constructed so that most intervals begin near the center of the previous interval (Figure 4.3). Since the intervals grow in proportion to the lower limit, the spacing between each interval and the next also grows in approximate proportion to the midpoint of the interval.

² Throughout this report, the words "log" and "logarithm" and the symbol "ln" refer to natural logarithms.

Figure 4.3:
Excerpt from
guidelines
table

Offense Level	Criminal History = I
17	24 - 30
18	27 - 33
19	30 - 37
20	33 - 41
21	37 - 46

Figure 4.4 shows the upper and lower boundaries of the sentencing guidelines ranges for all offense levels (for offenders with a criminal history score of I). Both the slope of the curve and the distance between the two curves increase smoothly with the increasing offense level. These two effects suggest that two assumptions of regression may be violated by sentence length. First, the variance of sentences allowed by the guidelines increases with increasing sentence length. That is, if judges use the entire allowed range, the variance of imposed sentences increases as the mean increases. This, in turn, raises the possibility that the variance of the regression residuals may not be constant over the entire range of observed values, as indeed we find to be the case in actuality. Second, if the variables in our equations provide good linear models of offense levels, they will provide bad models of sentence length, because the relationship between offense level and sentence length is non-linear.

The log transform is an appropriate statistical response to these circumstances. The range between the logarithm of the upper guideline limit and the log of the lower guideline limit is a constant— $\ln(1.25)$ —for all offense levels higher than 23-29. At lower levels, the range is not constant, but overall the range of the logarithms is much less variable than the range of the untransformed sentence lengths. The logarithm of the guideline midpoint is also approximately linearly related to offense level:

$$\ln(\text{midpoint}) \approx .883 + .127 \times \text{offense level}$$

where $\ln(\cdot)$ = natural logarithm (\cdot)

Similar relations apply at each criminal history level.

Evidence From the Data

Figure 4.5 shows the means (\pm one standard deviation) of sentences imposed on cocaine powder traffickers scored at each guidelines offense level. In general, the means increase faster than linearly, and the variance grows with increasingly higher offense scores. Even if we had no theoretical basis for selecting a logarithmic transformation for the sentence, this result would suggest that some transformation

Figure 4.4

Upper and lower guideline ranges

Offender group I

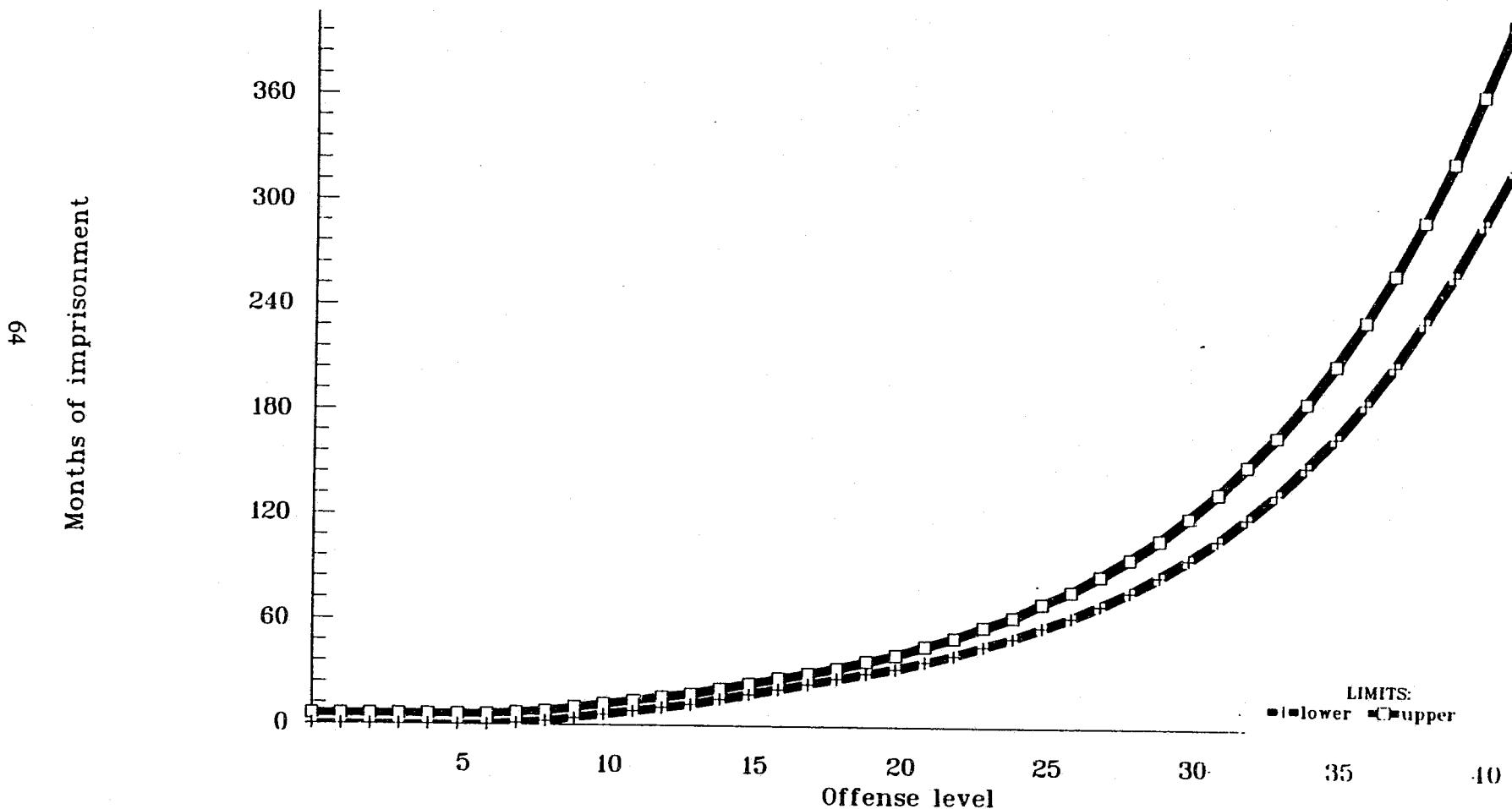
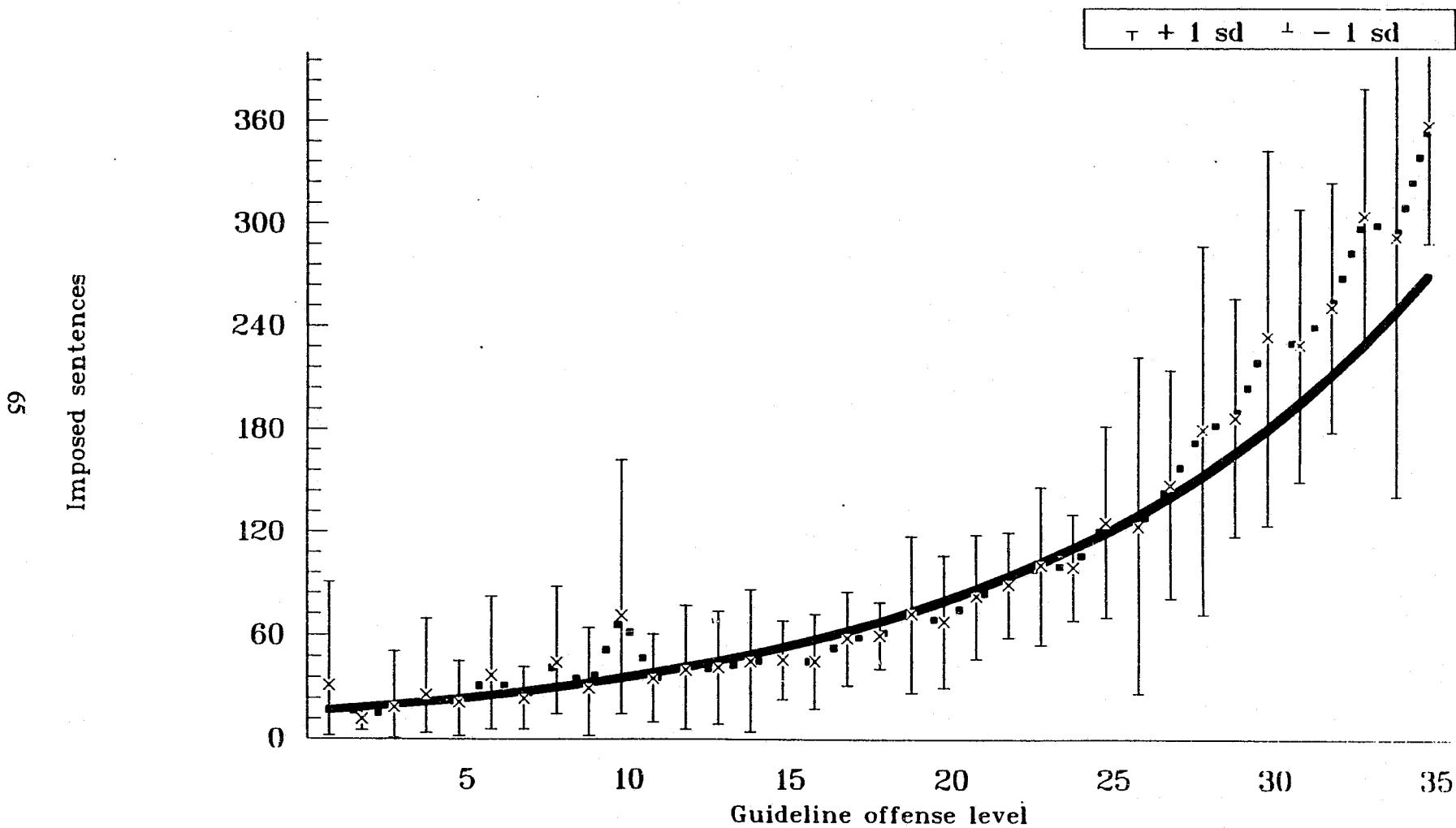


Figure 4.5

Cocaine powder
Sentence means and
Standard deviations



should be considered. A widely used family of transformations, the Box-Cox function, provides a range of curves. These transformations have a single parameter λ :

$$T(y, \lambda) = \begin{cases} \frac{y^\lambda - 1}{\lambda} & (\lambda \neq 0) \\ \ln(y) & (\lambda = 0) \end{cases}$$

For cocaine powder traffickers we tested a range of λ values to determine which best fit the relationship between drug weight and imposed sentence. The best fit corresponds to $\lambda \approx 0$ for both drug weight and sentence, i.e. the model is $\ln(\text{sentence}) = b_0 + b_1 \times \ln(\text{weight})$. The goodness of fit test is shown in Figure 4.6. Accordingly, sentence lengths and drug weights are entered in models after logarithmic transformation. For similar reasons, dollar amounts for property offenses are entered in log form.

Explanatory Variables

The first step selecting the independent variables to be used in the multivariate analysis was to create variables for the characteristics of interest using information from the FPSSIS records for each sentenced offender. For many variables, information from a number of FPSSIS data elements were combined to make the desired distinctions. For example, whether or not the offender was subject to mandatory minimum sentencing provisions was not recorded in the FPSSIS data. Using several data elements and analyzing the decision rules in the statutory law governing the application and definition of mandatory minimum sentences, we were able to develop a reasonably direct, albeit imperfect, indicator of eligibility. Similarly, neither the conviction charges nor any other variables FPSSIS indicate whether a drug law offense involved base cocaine ("crack") or powdered cocaine, but we were able to combine several FPSSIS data elements to distinguish unambiguously crack from powdered cocaine in the majority of cocaine trafficking cases (see Appendix 1).

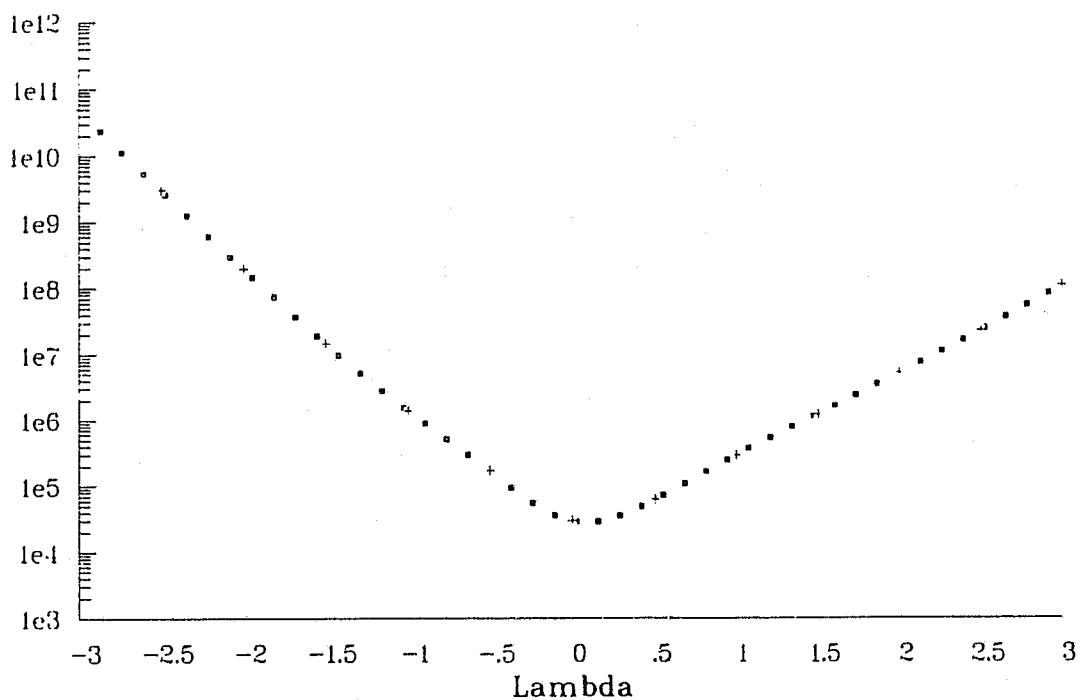
Most of the variables included in the models were present for over 99% of the offenders. With three exceptions, cases with missing data were excluded from the analysis. Three variables were observed to be missing in systematic patterns which might have affected the analysis: dollar values of property crimes, and the method of case disposition (plea or trial). Offenders with missing data on these items were included in the analysis.

Figure 4.6

Box-Cox transformation Length of imposed sentence

Cocaine Powder
Whites with prior prison stays

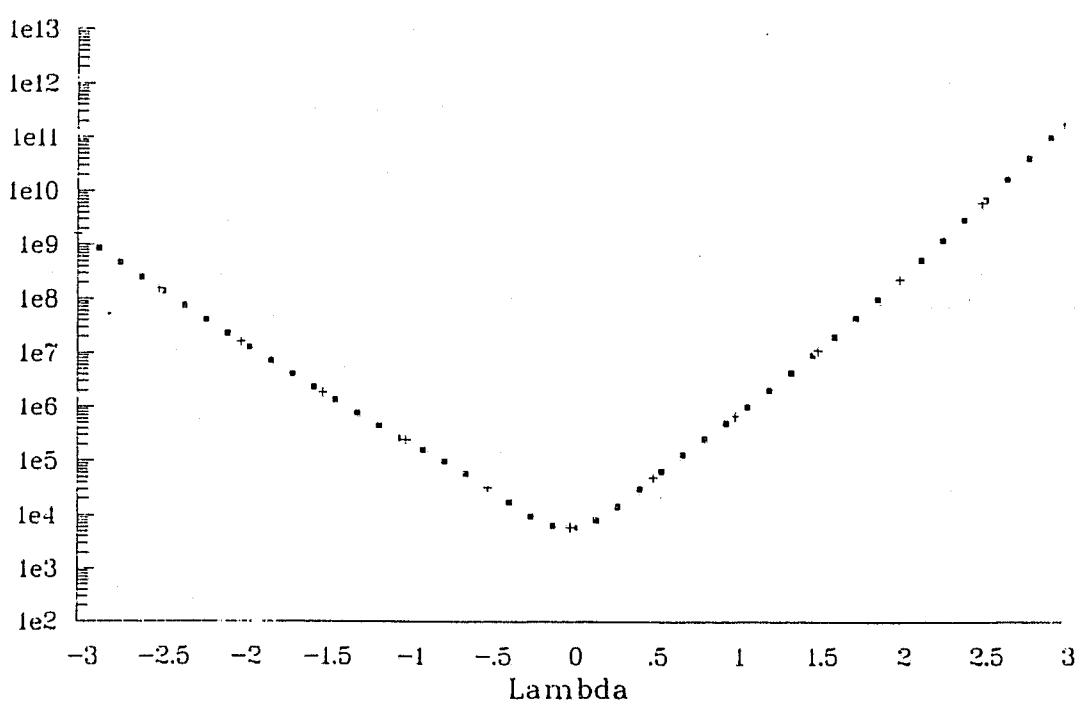
Sum of Squares



Box-Cox transformation Weight of cocaine

Cocaine Powder
Whites with prior prison stays

Sum of Squares



An indicator variable was constructed to denote cases with missing dollar values, and missing values were recoded to the mean of the non-missing observations. (Actually, since dollar amounts were transformed before analysis, the mean of the log was used.) For the categorical variable of method of case disposition, missing data were treated as forming another distinct category, and all levels were entered into the equations. This provided an estimate of the difference in sentence lengths for cases with valid vs. missing data, as well as allowing the estimation of coefficients for all other variables. Similarly, offenders with no prior incarcerations (and hence missing data for the number of months since last incarceration) were assigned a value of 77 months since last release, placing them in the top quarter of the observed distribution for this variable. Since three variables reporting the numbers of prior incarcerations (of various lengths) were also included in the analysis, this provided approximately unbiased control for the complete incarceration record. This treatment of missing variables, unlike either deletion of the case or use of a missing data correlation matrix, provides unbiased estimates of all relevant model statistics even when information is non-randomly missing.

For some possibly pertinent characteristics, no data were available for analysis in the existing files. Perhaps the most important of these were characteristics that may have affected the offender's ability to negotiate more favorable conviction charges and/or sentencing outcomes, such as whether the defendant was in detention before trial, although this should not affect determination of sentence, according to official policy and law. Also missing was information about the evidentiary strength of the government's case, which probably affects sentencing decisions because the guidelines range is determined in part by characteristics of the "real"—i.e., alleged—offense rather than the conviction charge, and the description of that offense for guidelines computation purposes is subject to negotiations and fact-finding. In addition, we also lacked information about whether the defendant provided the government with "substantial assistance" in developing cases against others—something that can be considered as affecting sentences under the guidelines. The variables analyzed are shown in Table 4.4.

Explanatory variables include the following types of information:

- specific offense characteristics such as the dollar value of economic crimes or the quantity of drugs sold;
- general offense characteristics such as whether the offender was convicted of only a single offense, whether the offense was part of an ongoing series, or whether the offense occurred in the context of an organized structure;

Table 4.4
Variables Analyzed

Sentencing Outcomes

LOCKEDUP	received/did not receive sentence requiring imprisonment
PRISMO4	length of prison sentence imposed
PRIS4_L	logarithm (natural) of the number of months sentenced to prison

Characteristics of Offenses

FELONY	principal offense of conviction was a felony
OFFTYPE	type of principal offense of conviction (classified by MAJxxx categories shown below)
MAJ3100	larceny: bank
MAJ3200	larceny: postal
MAJ3300	larceny: interstate commerce
MAJ3400	larceny: U.S. property
MAJ3700	larceny: other-felony
MAJ3800	larceny: other-misdemeanor
MAJ4100	embezzlement: bank
MAJ4200	embezzlement: postal
MAJ4310	embezzlement: public money or property
MAJ4320	embezzlement: lending, credit and insurance institutions
MAJ4330	embezzlement: by officers of a carrier
MAJ4340	embezzlement: World War Veterans Relief
MAJ4350	embezzlement: by officer or employee of U.S.
MAJ4390	embezzlement: other
MAJ4600	fraud: lending and credit institutions
MAJ4601	fraud: bank
MAJ4700	fraud: postal and interstate wire, radio, etc.
MAJ4800	fraud: Veterans and allotments
MAJ4900	fraud: bankruptcy
MAJ4910	fraud: marketing agreements and commodity credit
MAJ4920	fraud: Securities & Exchange Commission
MAJ4940	fraud: Railroad retirement and unemployment
MAJ4941	fraud: food stamps
MAJ4950	fraud: social security
MAJ4960	fraud: false personation
MAJ4970	fraud: nationality laws
MAJ4980	fraud: passport
MAJ4991	fraud: false claims and statements
MAJ4992	fraud: conspiracy to defraud
MAJ4993	fraud: conspiracy (general)
MAJ4994	fraud: false entries
MAJ4995	fraud: credit card
MAJ4996	fraud: computer
MAJ4999	fraud: other

Unless otherwise indicated, the value of the categorical variables is coded 1 if the condition described in the variable definition is met. Otherwise, it is coded as a 0.

Variables with the prefix *MAJ* refer to the primary offense at conviction ("major offense").

MAJ6700	cocaine trafficking: heroin/cocaine
MAJ6701	cocaine trafficking: cocaine distribution
MAJ6702	cocaine trafficking: cocaine importation
MAJ6703	cocaine trafficking: cocaine manufacture
MAJ6800	cocaine trafficking: continuing criminal enterprise
MAJ6801	cocaine trafficking: controlled substance distribution
MAJ7800	weapons: firearms and weapons
MAJ7820	weapons: unlawful possession of firearms
MAJ7830	weapons: firearms
MAND_MIN	subject to mandatory minimum prison sentences
CONT_GRM	weight (grams) of cocaine
COCAIN_L	logarithm (natural) of CONT_GRM
DOL_AMT	dollar value of property involved in offense
L_DOLLAR	logarithm of DOL_AMT
DOL_DUM	indicates that DOL_AMT information is missing
NOWEAPON	no weapon or threat was used by offender
GUN	gun was present at the time of offense
THREAT	weapon present and displayed but not used otherwise
SEC_GUN	offender convicted of secondary offense involving violation of Federal firearms or weapons laws
USED	firearm, knife, or other weapon used by offender
NO_INJUR	no injury to victim
MULTIPLE	offender was convicted of multiple offenses
ONGOING	offense involves multiple or ongoing crimes
ON_GO	offense was part of an ongoing organized criminal enterprise
SOLO	acted alone when committing offense
LEADER	offender played a leadership role in an organized crime
WORKER	offender played a role of a worker in an organized crime
SUPERVIS	offender played a role of a supervisor in an organized crime
MORECULP	role of offender was of greater culpability if acting with others
LESSCULP	role of offender was of lesser culpability if acting with others
SAMECULP	role of offender was of equal culpability if acting with others

Characteristics of Offenders' Criminal History/Criminal Livelihood

CONVADT	no. of prior adult convictions
CONFLTYN	no. of times confined previously for less than one year
CONF15Y	no. of times confined previously for 1 to 5 years
CONF5YRN	no. of times confined previously for more than 5 years
THISOFF	no. of times previously convicted
MONFREE	no. of months free since last incarceration
FREE	not under criminal justice supervision at time of offense
PANDP	on probation or parole at time of offense
ON_BAIL	offender on bail at time of offense
ANY_REV	any prior revocation of criminal justice supervision order

Unless otherwise indicated, the value of the categorical variables is coded 1 if the condition described in the variable definition is met. Otherwise, it is coded as a 0.

Variables with the prefix *MAJ* refer to the primary offense at conviction.

Case Processing Characteristics

METHOD	offender convicted by trial, by initial plea of guilty, or by guilty plea after initially pleading not guilty.
MISSMETH	information about METHOD was missing
EARLPLEA	pledged guilty at initial hearing
LATEPLEA	changed plea to guilty in later hearings
TRIAL	convicted by trial
PLEAMISS	information regarding plea/trial was missing
BARGAIN	charges reduced or dismissed in connection with guilty plea

Characteristics That Judges Are Prohibited or Discouraged from Considering When Determining Sentence

AGE1	age at sentencing
MALE	gender of offender
EMPLBEG	no. of months worked during year prior to arraignment
EMPLMO	monthly salary during year prior to arraignment
DOPER	offender identified as having drug problem
CIRCUIT	circuit where prosecuted
CIRDC	prosecuted in District of Columbia
CIR01	First Circuit
CIR02	Second Circuit
CIR03	Third Circuit
CIR04	Fourth Circuit
CIR05	Fifth Circuit
CIR06	Sixth Circuit
CIR07	Seventh Circuit
CIR08	Eighth Circuit
CIR09	Ninth Circuit
CIR10	Tenth Circuit
SOUTH	sentenced in the southern region of the United States
WHITE	non-Hispanic White
BLACK	non-Hispanic Black
HISPANIC	Hispanic origin

Unless otherwise indicated, the value of the categorical variables is coded 1 if the condition described in the variable definition is met. Otherwise, it is coded as a 0.

Variables with the prefix *MAJ* refer to the primary offense at conviction.

- offender characteristics such as prior record (and current supervision status) and role in the offense (alone, more or less culpable than codefendants, or about the same level of culpability as codefendants);
- case processing characteristics, including whether the defendant demanded a trial, and whether the record showed that counts were reduced or dismissed as part of a plea bargain.
- dichotomous indicator variables distinguishing black offenders from all others and Hispanic offenders from all others. (The few offenders of Asian, Native American, and other ethnicities were excluded from the analysis.)
- Ten indicator variables representing the geographical location of the sentencing court in the 11 Federal judicial circuits. An alternative geographical classification which simply indicated which cases were in southern judicial circuits was tested in all models, but is not shown in the tables; results were consistent with the more detailed geographical classification.
- Additional variables to test the possible effects of prohibited or discouraged consideration such as offender sex, age, socio-economic status (salary and number of months employed during the past year), and reported drug problems.

Model construction

Separate models were constructed for each offense group. Incarceration decisions were modeled by logistic regression. The logistic regression equation is:

$$\ln \left(\frac{\text{Percent incarcerated}}{\text{Percent not incarcerated}} \right) = B_0 + \sum_i B_i \cdot X_i$$

where:

$\ln (\cdot)$ = natural logarithm
 $B_0, B_1, B_2 \dots$ are regression coefficients.

Several versions of each model were estimated, including different subsets of covariates. Each table reports a parsimonious model, including a selected subset of available variables that are recognized sentencing considerations. These variables were selected stepwise from the pool of all recognized sentencing factors until no further candidate variables significantly improved the fit of the equation (at the .05 probability level). Subsequently, variables reflecting the race or ethnicity of the offender were forced to enter the equation. An expanded model including all circuit indicators, and all offender characteristic independent variables (race/ethnicity, sex, age, SES, and identified drug use) is reported

in the appendix. Other models tested but not reported in the tables included various combinations of race/ethnicity, sex, age, SES, identified drug use, and circuit or southern regional indicators. Where conclusions were sensitive to variations in the specification of these variables, this fact is noted in the text.

Interpretation of the Statistics in the Models

An example of the models constructed for each studied offense group is shown in Table 4.5. For each model, two statistics are reported for each independent variable included in the model. The first column shows the probability level associated with a test of the hypothesis that the estimated B_i coefficient for that variable in the equation shown above is zero. The second column translates the B 's into more natural units of measure. For equations of the incarceration decision, the second column shows $\exp(B_i)$, which is the odds ratio associated with a unit change in X_i . Where X_i is a dichotomy (as for BLACK and LATINO) $\exp(B_i)$ is

$$\left(\begin{array}{c} \frac{\text{Percentage of blacks incarcerated}}{\text{Percentage of blacks not incarcerated}} \\ \frac{\text{Percentage of whites incarcerated}}{\text{Percentage of whites not incarcerated}} \end{array} \right)$$

An odds ratio of 1 means that black offenders and white offenders (with otherwise similar characteristics) are estimated to have the same chances of going to prison. An odds ratio of less than 1 means that white offenders are estimated to have a greater chance of going to prison than similarly situated black offenders, and an odds ratio of more than 1 indicates that black offenders are estimated to have a higher chance of going to prison than similarly situated white offenders.

For example, in Table 4.5, reporting the model of the incarceration decision for cocaine powder trafficking, the model estimates $\exp(B_{\text{Black}})$ as 1.3846. This means the model estimates the odds of imprisonment for black offenders as 38.46% higher than for white offenders. The corresponding parameter for Hispanic offenders is 2.0915. For purposes of illustration, suppose that the probability of imprisonment for white offenders (at some specified level of the covariate variables) is 90%. This is equivalent to odds of 9:1 in favor of a prison sentence ($.90 / .10 = 9$). The model estimates that for each level of covariates, the odds of imprisonment for Hispanic offenders are slightly more than twice the odds for white offenders. This gives odds of 18.82:1 in favor of prison sentences for Hispanic offenders ($2.0915 * 9 = 18.82$). Translated back into percent, odds of 18.82:1 is equivalent to

Table 4.5

**Imprisonment/Not Imprisonment Sentences for Cocaine Powder: Logistic Regression Models
(Guideline Cases: January 20, 1989 - June 30, 1990)**

<u>Variable</u>	<u>p(B=0)</u>	<u>exp(B)</u>
Offense characteristics		
COCAIN_L	.0000	1.2759
NOWEAPON	.0350	.5280
MULTIPLE	.0008	4.2010
ON_GO	.0044	1.9816
ROLE	.0000	
Prior record		
THISOFF	.0132	1.7984
MONFREE	.0024	.9809
Plea or trial		
METHOD	.0127	
Other sources of variation		
RACE	.0036	
BLACK	.0708	1.3846
HISPANIC	.0014	2.0915
Constant	.0000	

Model	chi square	df	p
Excluding race	1281.89	4731	
Including race	1269.96	4729	
Difference	11.93	2	.0026

95%—which may be viewed either as a slight increase in the incarceration rate or as a halving in the number of offenders **not** incarcerated.³

The test statistic produces a p-value. In the example of Table 4.5 the p-value associated with the odds ratio for black offenders is .0708, and that for Hispanic offenders is .0014. One can compare the p-value with a specified significance level to decide whether or not to reject the null hypothesis that the odds ratio associated with the racial variable equals 1. P-values over .05 indicate insufficient evidence to reject the null hypothesis where we set a 5% chance for a Type I error. Another p-value is shown in the table adjacent to the word "RACE." This level is .0036 in table 4.5. This is an approximate test (based on the Wald statistic) of the null hypothesis that *both* the Black and Hispanic odds ratios are 1. Another approximate test of the same hypothesis is shown below the main body of the table, where the goodness of fit of the model is compared to another model that is identical except for the exclusion of racial and ethnic information. The column headed "chi square" shows -2 log likelihood. The difference between the models with and without race/ethnicity information is tested by the difference in -2 log likelihood. In this case, the difference is 11.93, which has a p-value of .0026—approximately the same as that associated with the Wald statistic.

For offenders sentenced to prison, the length of the imposed sentence was modeled by ordinary least squares (OLS), with the natural logarithm of the sentence length in months as the dependent variable, so that the model was:

$$\text{sentence length} = e^{(B_0 + \sum_i B_i \cdot X_i)}$$

Each table reports a parsimonious model constructed by stepwise selection of covariates. Covariates were allowed to enter in order of decreasing significance until none of the excluded variables would improve the model fit at the .05 significance level. Once this selection process was completed, the race/ethnicity variables were forced to enter the equation regardless of their significance level. The tables also report the change in goodness of fit (measured by R²) caused by the inclusion of the race/ethnicity variables in each equation. Appendix tables report an additional model, in which all candidate variables were included in the equation, regardless of significance.

³The odds ratio for incarceration is the reciprocal of the odds ratio for avoiding incarceration.

Tables showing the OLS models of length of sentence follow a format similar to that used for logistic regressions of the incarceration decision, but include three columns showing, respectively, B_i , $\exp(B_i) - 1$, and a significance test of the hypothesis that $B_i = 0$. Since the models estimate \ln (sentence length), $\exp(B_i) - 1$ is the model's estimated percent increase in sentence length associated with a unit change in X_i . Table 4.6 shows the OLS regression model estimated for the length of prison sentences imposed for cocaine powder trafficking. The variable Black is coded 1 if the offender is black (but not Hispanic), and zero otherwise; Hispanic is coded 1 if the offender is Hispanic (of any race). Offenders who are not Black, White, or Hispanic are excluded from the model. Thus the coefficient $B_{Black} = .0693$ is the model's estimate of the difference in log sentence between black and white offenders. Similarly, $\exp(.0693) = 1.0718$, is the model's estimate of the ratio of sentences for black offenders to sentences for white offenders, implying that the model estimates average sentences for black offenders to be 7% longer than the average for white offenders at each level of the covariate variables.

The p-value shown in the third column of the table provides a test of the hypothesis that $B_i = 0$ (or equivalently, that the ratio of sentences is 1). A combined test of the joint hypothesis that $B_{Black} = B_{Hispanic} = 0$ is shown below the main body of the table, where the tabulated model is compared with a model that is identical except for the exclusion of race and ethnicity information. The R^2 statistics indicate the goodness of fit of the two models. Adding race and ethnicity information raises R^2 from .6148 to .6169, a slight (.0021) increase which is statistically significant ($p < .0001$) only because the equations are based on nearly 5600 observations.

A Second Strategy: A Direct Comparison of Outcomes for Similarly Situated Offenders

Coefficients in linear and logistic regression models provide simple and statistically efficient tests of overall mean differences between groups of offenders. The statistical tests, however, are based on a number of assumptions about the distribution of residuals and the exact form of relationship which prevails among the variables. For example, tests of main effects based on ordinary least-squares regression are affected by extreme values of dependent variables, observations with high leverage in the independent variables, and nonlinearity in the relation of independent to dependent variables. The effect of one independent variable may depend on the level of another (interaction) or may be increasing at low levels and decreasing at high levels (curvilinearity). Unless the model is exactly specified (a literal impossibility), some doubt always remains about interpretation of individual coefficients and their significance tests.

To resolve possible ambiguities relating to the specification of the model, we supplemented the linear and logistic models with non-parametric graphical presentations of the data. For each major

Table 4.6
Length of Prison Sentences for Cocaine Powder: OLS Regression Models
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
Offense characteristics			
COCAIN_L	.1985	22%	.0000
MAND_M12	.1922	21%	.0000
NOWEAPON	-.1930	-18%	.0000
THREAT	.1615	18%	.0086
SEC_GUN	.2590	30%	.0000
MULTIPLE	.2223	25%	.0000
ON_GO	.0719	7%	.0001
Role in the offense			
MORECULP	.1667	18%	.0000
LESSCULP	-.2414	-21%	.0000
Offender's prior record			
CONFLYN	.0524	5%	.0002
CONF15Y	.1038	11%	.0000
CONF5YRN	.0984	10%	.0001
THISOFF	.0815	8%	.0000
MONFREE	-.0014	0%	.0055
PANDP	.1630	18%	.0000
Plea or trial			
LATEPLEA	-.0547	-5%	.0019
TRIAL	.3751	46%	.0000
MISSMETH	-1.0871	-66%	.0000
BARGAIN	-.0419	-4%	.0212
Race/ethnicity			
BLACK	.0693	7%	.0003
HISPANIC	.0993	10%	.0000
Constant	2.5645	12.99	.0000

Model	R ²	df	p
Excluding race	.6148	5571	
Including race	.6169	5569	
Difference	.0021	2	<.0001

offense type, we identified a variable or combination of variables which was most significantly associated with both *the offender's being white, black, or Hispanic* and *sentence severity*. For example, among embezzlers, the dollar value of the loss is significantly associated with both probability of incarceration and length of sentence. It is also associated (negatively) with black offenders. We then constructed a graph plotting the respective rates of imprisonment for black and white offenders at several consecutive ranges of dollar values. Prior record variables were also correlated with both race and sentence severity. So in the case of embezzlement, we restricted the graphs to first offenders. Little information was lost by this restriction, because people with criminal records are rarely afforded the opportunity for further embezzlement.

In the resulting graphs, there is no ambiguity about whether prior record variables have been correctly modeled; everyone in the graph has the same prior record. Nonlinearity in the relationship between value and sentence, and interactions between value and ethnicity are also subject to direct visual inspection. If a particular point seems anomalous, individual observations can be displayed.⁴

For other offenses it was sometimes necessary to combine two or more variables to construct an index of prior record or offense severity. Where rare events (such as use of weapons in ordinarily nonviolent crimes) emerged as significant factors, we controlled the analysis by eliminating the exceptional cases. Where such events were a minority but not an exception, we constructed separate graphs for violent and less violent offenders. In every case, the goal was to compare equivalent groups of black and white offenders, based on variables related both to sentence and to ethnicity.

These graphs complement the regression analyses in that they have different strengths and weaknesses. There are two principal caveats in examining the graphs. First, the number of variables which can be considered is limited, while regression equations can be based on large numbers of variables. Generally, however, additional variables added little to the predictive ability of the information to distinguish black, white and Hispanic offenders. Second, the number of observations supporting individual points on the graphs is sometimes small. (Points based on too few observations for valid estimation are not plotted.) It is simply a fact of crime that relatively few black offenders are involved in some categories of offenses, such as the highest volume cocaine powder trafficking offenses, and that sentences at these levels cannot reliably be compared. These extreme cases and sparsely populated subgroups are included in the ordinary least-squares regressions, and may influence the estimated effects.

⁴ By doing this for embezzlers, we found that what seemed to be high average sentences actually reflected three individuals whose sentences were indeed exceptional.

In general, where both the regression method and the graphical method showed consistent effects, our confidence in the combined findings was increased. Where results were inconsistent, we concluded that it was unwise to interpret the evidence as suggesting that racial/ethnic differences in sentencing may exist after other legitimately considered factors are accounted for.

Summary of Statistical Findings for Sentencing in Guideline Cases

The regressions produce estimated differences among sentences imposed on white, black, and Hispanic offenders after accounting for as many other factors as possible that are recognized as legitimately contributing to the sentencing decisions. Table 4.5 compares these estimated differences to the differences observed in the three populations of offenders, before any attempt was made to control statistically the effects of other variables. The table permits comparison of estimated ethnic effects with and without consideration of other legally recognized factors which contribute to the sentencing decision.

Several analyses were conducted for each offense type, testing the sensitivity of the estimates to various formulations of the model, including more or fewer offense and offender characteristics, different levels of geographic description, and offender characteristics which are prohibited or discouraged as sentencing considerations. In addition, non-parametric analyses were used to check the assumptions underlying the regressions. These are discussed in detail in the following text chapters.

Table 4.7 shows the results of only one of these models: the regression based only on legally relevant offense and offender characteristics that were significantly ($p < .05$) associated with sentencing outcomes. The regressions reported in this table did not consider geographic information, offenders' sex, age, drug use, or employment history. They are based on every case available for analysis, regardless of how unusual or extreme that case's circumstances or sentencing pattern may have been. The more detailed analyses described in subsequent chapters indicate that in at least two instances, apparently significant differences estimated by this model were due entirely to sentences imposed on one or two individuals. These occurrences are noted in the table.

The first column of Table 4.7 shows the odds ratio. It compares the odds of imprisonment for minority offenders with the odds for white offenders convicted of the same offense. The odds of imprisonment are computed as the probability of receiving a prison sentence divided by the probability of receiving any other kind of sentence. The comparison shown in the table is the odds of imprisonment for minority offenders divided by the odds for white offenders (the odds ratio).

Table 4.7

Comparing Differences in Sentences Imposed on Whites, Blacks, and Hispanics: Actual Differences Observed and Estimated Differences After Controlling for Important Differences That Influence Sentencing Outcomes

Primary offense of conviction	Odds ratio of imprisonment		Percent difference in length of sentence	
	Observed	Adjusted	Observed	Adjusted
Cocaine trafficking:				
Crack				
Blacks vs. whites	.90	.(a)	8%	24% (b)
Hispanics vs. whites	.(a)	.(a)	25%	4%
Powdered cocaine				
Blacks vs. whites	1.34	1.38	3%	7%***
Hispanics vs. whites	3.17	2.09**	33%	10%***
Bank robbery				
Blacks vs. whites	.50	.(a)	16%	8%*
Hispanics vs. whites	.53	.(a)	2%	5%
Weapons				
Blacks vs. whites	2.96	2.06***	54%	19%***
Hispanics vs. whites	1.46	1.90**	16%	8%
Fraud				
Blacks vs. whites	.99	1.20	-9%	3%
Hispanics vs. whites	.77	2.43 (b)	-56%	4%
Larceny				
Blacks vs. whites	1.25	1.61**	-21%	-7%
Hispanics vs. whites	1.51	1.08	-29%	14%
Embezzlement				
Blacks vs. whites	.98	.(a)	-42%	-24% (b)
Hispanics vs. whites	1.08	2.17* (a)	-15%	-10%

(a) Not modeled; nearly all offenders received prison sentences, or the observed differences were small.

(b) $p < .01$, but see text.

*** $p < .001$

** $p < .01$

* $p < .05$

$$\text{odds ratio} = \frac{\left(\begin{array}{l} \text{percentage of blacks sentenced to prison} \\ \hline \text{percentage of blacks not sentenced to prison} \end{array} \right)}{\left(\begin{array}{l} \text{percentage of whites sentenced to prison} \\ \hline \text{percentage of whites not sentenced to prison} \end{array} \right)}$$

For example, the entry for powdered cocaine in the table (1.34) compares the odds of imprisonment for black powdered cocaine trafficking offenders (26.03:1, calculated from Table 5.2) with the odds for white offenders (19.41:1).

$$26.03 / 19.41 = 1.34$$

The second column of Table 4.7 shows the estimate of the odds ratio in a model that incorporates offense and offender information recognized as legitimate in the computation of guidelines sentences. (The following chapters on specific offenses describe exactly which variables are included in each model.) The entry for cocaine powder trafficking (1.38) is virtually identical to that resulting from the unadjusted calculation.

Some entries in the second column are followed by asterisks indicating the results of tests of statistical significance. The absence of an asterisk indicates that we cannot reject the hypothesis that similarly situated black and white cocaine powder traffickers are treated identically except for random variations. Entries with one, two, or three asterisks indicate that the model's estimate of the odds ratio is significantly different from 1 at the .05, .01, or .001 level (respectively).

Approximately 99% of offenders convicted of bank robbery or crack trafficking were sentenced to prison. We did not attempt to construct models to identify the handful of these offenders who avoided incarceration. This fact is indicated in Table 4.7 by the note "(a)".

The third and fourth columns of the table indicate analogous information for the length of prison sentence imposed on offenders receiving such sentences. The third column shows the percentage difference in average length of sentences imposed on minority offenders compared to the average for white offenders convicted of the same offense class. For example, the entry for powdered cocaine in column 3 (3%) was computed by dividing the difference in average prison sentence for black and white cocaine powder traffickers (73.2 months, and 71.3 months, respectively, from Table 5.4) by the average sentence for white offenders.

$$\frac{73.2 \text{ months} - 71.3 \text{ months}}{71.3 \text{ months}} \times 100\% = 3\%$$

The entry in the fourth column shows the OLS model estimate of this percent difference in a model that incorporates offense and offender information legitimately considered in the computation of sentencing guidelines. The adjusted estimate for cocaine powder trafficking is that black offenders received sentences averaging about 7% longer than similarly situated white offenders. The asterisks following this column have the same purpose as those following the estimates in column 2. In this case, the three asterisks indicate that we reject the null hypothesis of identical average sentences for white and black offenders at the .001 significance level.

The summary table compares unadjusted data with the results of only one of the several models we estimated for each offense group. The specific variables included in these models are described in the following chapters for each offense group. These chapters also indicate instances where further analysis or other model specifications led us to question the conclusions of a particular model estimate. These are indicated in the summary table by the note "(b)" which indicates a result estimated to be statistically significant by the model shown, but not confirmed by more in-depth analyses.

The models summarized in Table 4.7 indicate slightly more severe sentences for minority groups convicted of trafficking in cocaine powder. They also indicate that black and Hispanic weapons offenders faced a substantially greater risk of incarceration than white offenders with similar patterns of data, and that when black weapons offenders were incarcerated, their sentences tended to be about 19% longer than white offenders with similar characteristics. (However, this adjusted estimate of the difference was much smaller than the gross 54% difference in sentence length observed in the unadjusted data.) Incarceration risks were also higher in certain specific fraud and larceny cases, which are detailed in the subsequent chapters.

Drug Trafficking

Offenders sentenced for violating drug laws are by far the largest category of criminals convicted in the Federal district courts. During the year and half following January 20, 1989, 48% (or 16,663) of all offenders sentenced in guideline cases were convicted of drug crimes. Nearly all—91%—of these offenses were for drug trafficking: importing, manufacturing, cultivating, or distributing illegal drugs. Since the early 1980s, most of the growth of the Federal court caseload has resulted from greatly increased numbers of drug law prosecutions. Between 1980 and 1990, the numbers of offenders convicted of Federal drug law violations more than tripled, while the number of all other offenses combined increased by 32% (McDonald and Carlson, 1992).

Not only are these crimes now the most common in Federal courts, they are also among the most severely punished. All but 5% of those convicted of drug trafficking in guideline cases during the January 20, 1989-June 30, 1990 period were given prison sentences. The average sentence given to traffickers was 77 months—nearly six and a half years. Only serious crimes of violence (murder, rape, robbery, kidnapping) were given sentences as severe.

Drug offenders convicted in Federal courts under guidelines were disproportionately black or Hispanic. Whereas 40% of all white offenders sentenced between January 20, 1989-June 30, 1990 were convicted of Federal drug offenses, 49% of all black offenders were, and 59% of all Hispanics. Upon conviction for drug trafficking, blacks, and Hispanics to a lesser degree, were in aggregate given more severe sentences than whites. The imprisonment rates for whites were lowest: 92%, compared with 96% for blacks and 97% for Hispanics. Of those going to prison, blacks were given the longest sentences, averaging 96 months, whereas whites got sentences that were 26 months shorter, on average. Sentences given to Hispanics were about as long as those given to whites (68 months, compared with 70 for whites).

As the following sections show, most of these sentencing differences can be accounted for by known characteristics that differentiated whites, blacks, and Hispanics from one another, and which were also correlated with the severity of the sentence imposed.

Distinguishing Type of Drug

An important determinant of sentence severity was the type of drug that the offender trafficked in. Because the relative extent of involvement of whites, blacks, and Hispanics varied from one drug to another, we distinguished all offenders according to the types of drugs for which they were convicted: heroin, marijuana, cocaine powder, cocaine base or "crack," and all other controlled substances (LSD,

PCP, methamphetamine, etc.).¹ This was done to explore if the differences stemmed from white, blacks, and Hispanics committing different kinds of trafficking offenses. Table 5.1 shows the numbers and proportions of whites, blacks, and Hispanics convicted of trafficking in each type of drug. Table 5.2 shows the imprisonment rates of whites, blacks, and Hispanics convicted of trafficking in each drug. Table 5.3 shows the average length of imprisonment sentences given for these types of drugs.

Two thirds (64%) of offenders with identifiable drug types who were sentenced for drug crimes in Federal district courts were convicted of trafficking in cocaine. Among those so convicted, whites were given imprisonment sentences somewhat less frequently than others: 94% of whites, compared with 97% of all blacks and 98% of all Hispanics. Imprisonment sentences were also shorter for whites. Whereas whites were sentenced to an average of 74 months in prison, blacks averaged 102 months, and Hispanics 96 months.

Marijuana traffickers constituted 25% of drug offenders with identifiable drug types. There was little difference in the proportions of whites and blacks imprisoned for this offense (89% and 88%, respectively), but a somewhat larger proportion (95%) of all Hispanic marijuana traffickers were incarcerated. The length of prison sentences given to whites were somewhat longer (averaging 51 months) while blacks and Hispanics received nearly identical sentences (43 and 42 months, respectively).

A relatively small number (11%) of offenders were convicted of trafficking in heroin. Of those, there was little difference in the proportions of whites, blacks and Hispanics imprisoned—nearly all went to prison. Moreover, there was no difference in the length of sentences given to whites and blacks (86 versus 85 months, on average), although Hispanics received somewhat shorter average terms (61 months).

Approximately 200 offenders (1%) were convicted in Federal district courts for trafficking in all other types of controlled substances. There were no significant differences among whites, blacks, and Hispanics in the proportions given imprisonment sentences or the average prison sentences imposed.

Explaining the Differences

Tables 5.2 and 5.3 show that the dissimilarities in average sentences given to whites, blacks, and Hispanics convicted of drug trafficking reflected two distinct kinds of differences among offenders.

¹ Not all offenders could be classified unambiguously by type of drug because the FPSSIS records reported some offenders as being convicted of trafficking in more than one kind of drug. Rather than attempt to discern which drug was the primary one, we chose to exclude these offenders altogether from the analysis of sentencing outcomes. Our general strategy was to limit the variation in the offenses for which persons were convicted, and we reasoned that persons charged with trafficking in more than one type of drug might be sentenced differently from persons charged with only one.

Table 5.1
Proportion of Offenders Convicted of
Drug Trafficking, by Race/Ethnicity and Type of Drug
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Type of drug</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
All drugs	5,783 (100%)	4,513 (100%)	4,867 (100%)
Cocaine	2,870 (49.6%)	3,219 (71.3%)	2,094 (43.0%)
Marijuana	1,074 (18.6%)	126 (2.8%)	1,914 (39.3%)
Heroin	303 (5.2%)	597 (13.2%)	428 (8.8%)
Other controlled substances	179 (3.1%)	8 (.2%)	21 (.4%)
Other ^a	1,357 (23.5%)	563 (12.5%)	410 (8.4%)

^a Includes offenders who could not be unambiguously classified by type of drug because the FPSSIS records reported multiple drugs.

Table 5.2
**Proportions of Drug Traffickers Given Imprisonment
 Sentences, by Type of Drug and Offenders' Race/Ethnicity
 (Guideline Cases: January 20, 1989-June 30, 1990)**

<u>Type of Drug</u>	<u>Whites</u>	<u>Blacks</u>	<u>Hispanics</u>
All drugs	92.2% (5,783)	96.4% (4,513)	97.1% (4,867)
Cocaine	94.1% (2,870)	96.7% (3,219)	97.9% (2,094)
Marijuana	89.0% (1,074)	88.1% (126)	95.2% (1,914)
Heroin	95.1% (303)	97.2% (597)	97.2% (428)
Other controlled substances	97.8% (179)	100% (8)	90.5% (21)
Other ^a	90.0% (1,357)	95.9% (563)	94.9% (410)

^a Includes offenders who could not be unambiguously classified by type of drug because the FPSSIS records reported multiple drugs.

Table 5.3

**Average Length of Prison Sentences Given to Drug Traffickers,
by Type of Drug and Offenders' Race/Ethnicity
(Guideline Cases: January 20, 1989-June 30, 1990)**

<u>Type of Drug</u>	<u>Whites</u>	<u>Blacks</u>	<u>Hispanics</u>
All drugs	70.2 mos. (5,333)	95.8 mos. (4,351)	67.9 mos. (4,725)
Cocaine	74.4 (2,700)	101.7 (3,113)	96.1 (2,049)
Marijuana	50.5 (949)	42.7 (110)	41.3 (1,852)
Heroin	85.8 (288)	85.4 (580)	61.0 (416)
Other controlled substances	111.6 (175)	132.5 (8)	87.3 (19)
Other ^a	66.6 (1,221)	83.2 (540)	52.4 (389)

NOTE: Includes sentences only for offenders sent to prison.

^a Includes offenders who could not be unambiguously classified by type of drug because the FPSSIS records reported multiple drugs.

The first was that the proportions of whites, blacks, and Hispanics convicted varied according to the type of drug. Because certain types of drug offenses were more severely punished than others, a predominance of black offenders convicted of those offenses translated into a longer average sentence for all blacks, considered as a group. Second, some of the dissimilarity in sentencing resulted from whites, blacks, and Hispanics being punished differently upon conviction for trafficking in the same type of drug (analyzed further below).

Black drug traffickers were punished more severely partly because they were more likely to be convicted of trafficking in cocaine and, to a much lesser degree, in heroin. Both of these offenses were severely punished, compared with the other common type of drug offense—marijuana trafficking. Whereas 71% of all black drug traffickers prosecuted in Federal district court in guideline cases during this period were convicted of cocaine offenses, 50% of all white traffickers and 43% of all Hispanic traffickers were so convicted (Table 5.2). Moreover, blacks outnumbered whites and Hispanics in convictions for heroin trafficking. In contrast, only 3% of all black traffickers were convicted of marijuana offenses, compared with 19% of all white traffickers, and 39% of all Hispanics. Because the average sentences for marijuana trafficking were substantially shorter than for cocaine offenses, the average sentences given to all white and Hispanic traffickers were shorter than for black traffickers (Table 5.3).²

Tables 5.2 and 5.3 show substantial differences in sentences imposed on black, white, and Hispanic offenders convicted of cocaine trafficking.³ Although nearly all offenders (96%) were sentenced to prison, whites had slightly lower rates of incarceration (94%) than either black or Hispanic offenders (97% and 98%, respectively). On average, white offenders received considerably shorter sentences (74 months) for cocaine trafficking than black (102 months) or Hispanic (96 months) offenders.

This difference in sentence lengths began to emerge in cases terminated in 1987 (Figure 5.1) and increased substantially during the ensuing three years. Three major changes occurred during this period. First, increasing numbers of offenders were subject to the Anti-Drug Abuse Act of 1986, which took effect on October, 17, 1986. Second, as has been described above, sentencing guidelines took effect on November 1, 1987. Third, the prevalence of crack increased substantially over the period. We cannot reliably distinguish crack from cocaine powder in non-guideline cases, but for guideline cases, in the

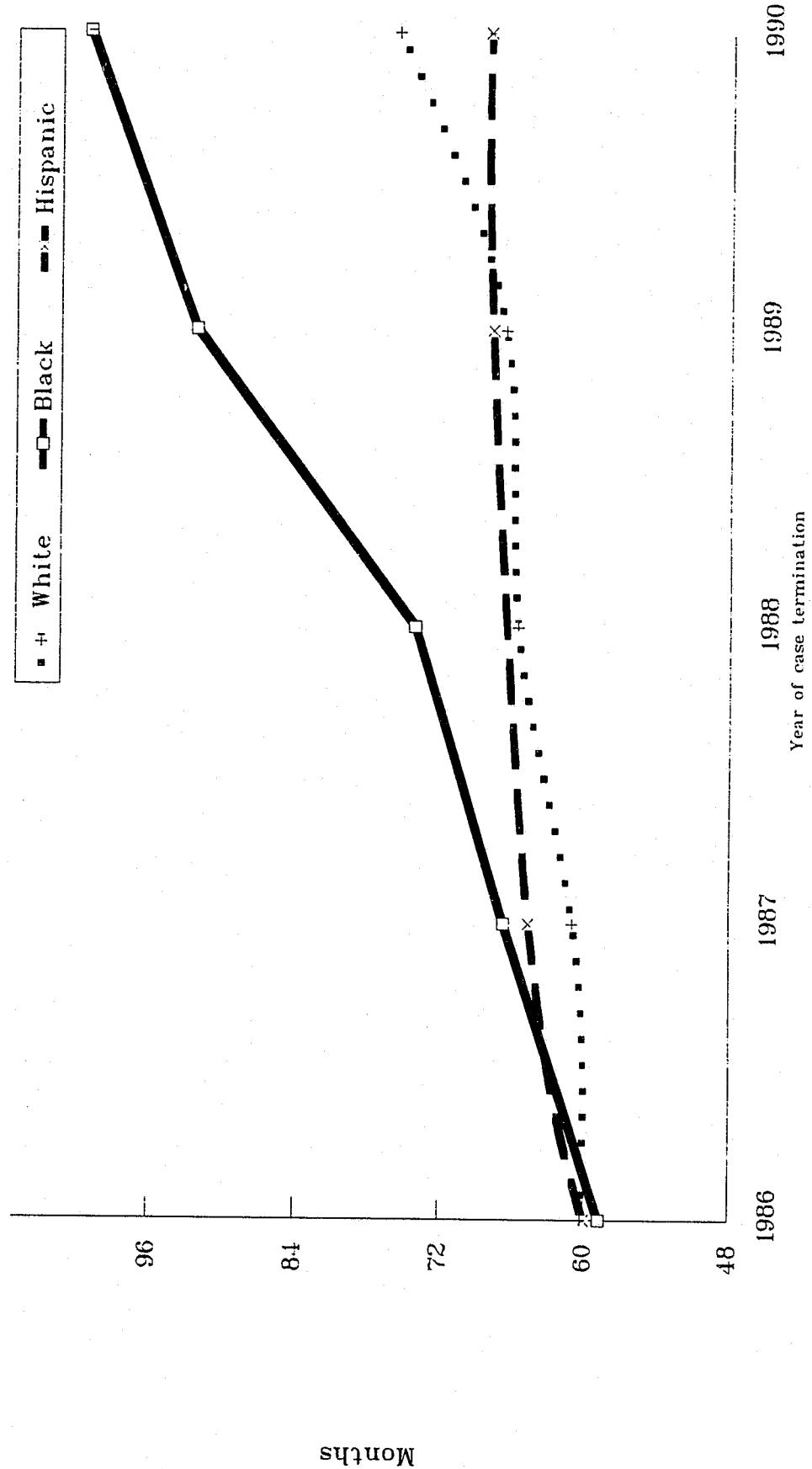
² These comparisons include only those persons convicted of trafficking in one type of drug.

³ Incarceration rates were slightly higher for Hispanic marijuana traffickers than for whites or blacks, while average sentences were longer for whites than for blacks and Hispanics convicted of marijuana trafficking. Because this is more likely to have resulted from importation and distribution patterns than from invidious discrimination, we did not analyze this difference further. Heroin and other controlled substances involved too few offenders to support conclusions about the effects of race or ethnicity.

Figure 5.1

Trend in average sentence length
Cocaine (and crack) traffickers

January 1986–June 1990



interval from January, 1989, to June, 1990, the caseload rose from approximately 8% crack at the beginning of the period to over 18% by the end.⁴

Different Sentences for Trafficking in Crack and Powdered Cocaine

Most of the cocaine consumed in this country is sold in two principal forms: cocaine hydrochloride—the powdered form that is most common—and cocaine base, known by its street name, crack. The latter is converted from powdered cocaine, usually by street-level dealers, so that the substance can be smoked, rather than inhaled ("snorted") or injected. By passing the Anti-Drug Abuse Act of 1986, Congress stiffened the Federal sentencing laws and prescribed especially stern punishment for those convicted of trafficking in even very small amounts of crack.⁵ This revision was then incorporated in the guidelines promulgated by the Sentencing Commission. The guidelines recommend the same sentencing range for one gram of crack as for 100 grams of powdered cocaine. This 1:100 equivalence applies to all larger amounts. For amounts below one gram of crack or 100 grams of powder, a 1:10 equivalence is established. This results in substantially different guideline ranges computed for offenders convicted of selling an identical amount of crack or powdered cocaine. For example, the guidelines recommend a sentence of 27-33 months for a first offender who sells one gram of crack, while the recommended sentence for the same first offender is 10-16 months if the cocaine sold is in the form of powder.

The data files used for this study do not distinguish trafficking cases by whether crack or powdered cocaine was being traded, but we were able to infer the type of drug by combining information about guideline ranges and reported weights of drugs. Of all offenders convicted of trafficking in some form of cocaine (and in cocaine only, because we eliminated offenders charged with distributing more than one type of drug), we were able to distinguish crack from powdered cocaine in 85% of the cases. (See Appendix 1 for a description of the method we employed.)

Distinguishing offenders according to whether they were convicted of crack as opposed to powdered cocaine explains a very large part of the apparent difference in sentencing of white, blacks, and Hispanics. For both whites and blacks convicted of trafficking in powdered cocaine, the proportions receiving a prison sentence were nearly identical (95 and 96%) as were the average prison terms (71 and 73 months). (See Tables 5.4 and 5.5) What differed dramatically, however, were the numbers and proportions of whites and blacks convicted of distributing crack. Eighty-two percent of all offenders

⁴ Based on smoothed monthly figures (isotonic regression). See Figure 5.2.

⁵ PL 99-570.

Figure 5.2

Monthly trend in crack convictions
as a fraction of all crack and cocaine

January 1989–June 1990

16

Percent crack

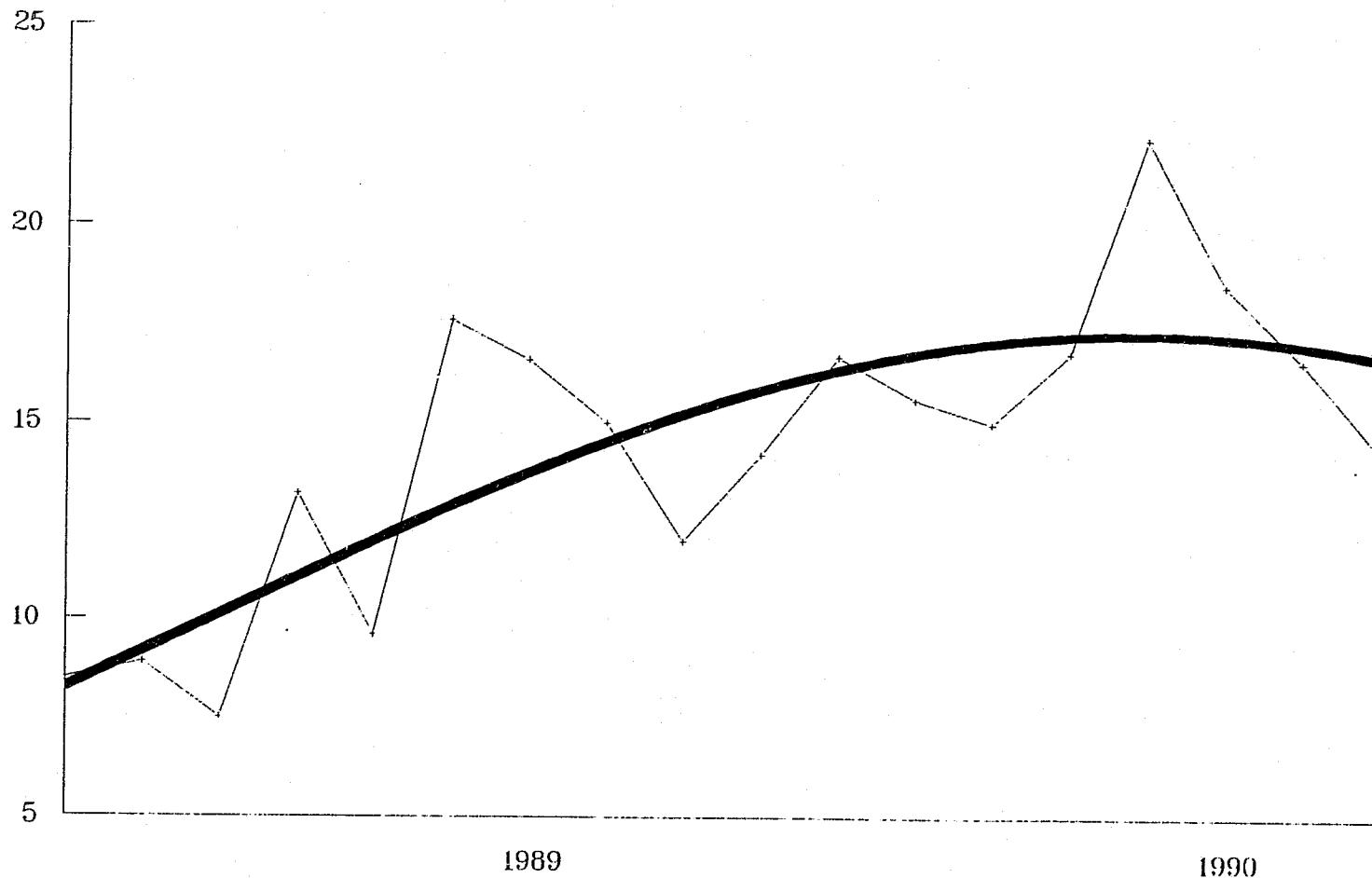


Table 5.4

**Proportions of Crack and Powdered Cocaine Traffickers Given Imprisonment
Sentences, by Offenders' Race/Ethnicity
(Guideline Cases: January 20, 1989-June 30, 1990)**

<u>Type of cocaine*</u>	<u>Whites</u>	<u>Blacks</u>	<u>Hispanics</u>
Both types of cocaine	94.1% (2,870)	96.7% (3,219)	97.9% (2,094)
Crack cocaine	99.1% (113)	99.0% (862)	100.0% (72)
Powdered cocaine	95.1% (2,394)	96.3% (1,687)	98.4% (1,788)

NOTE: Crack and powder totals do not sum to "both types of cocaine" because the form of cocaine could not be determined for some offenders.

* Excludes offenders who could not be unambiguously classified by type of drug because the FPSSIS records reported multiple drugs.

Table 5.5

**Average Length of Prison Sentences Given to Crack and Powdered Cocaine Traffickers, by Type of Drug and Offenders' Race/Ethnicity
(Guideline Cases: January 20, 1989-June 30, 1990)**

<u>Type of cocaine^a</u>	<u>Whites</u>	<u>Blacks</u>	<u>Hispanics</u>
Both types of cocaine	74.4 mos. (2,700)	101.7 mos. (3,113)	96.1 mos. (2,049)
Crack cocaine	129.9 (112)	140.1 (853)	162.1 (72)
Powdered cocaine	71.3 (2,276)	73.2 (1,626)	94.7 (1,759)

NOTES: Includes sentences only for offenders sentenced to prison. Crack and powder totals do not sum to "both types of cocaine" because the form of cocaine could not be determined for all offenders.

^a Excludes offenders who could not be unambiguously classified by type of drug because the FPSSIS records reported multiple drugs.

convicted for crack were black. Because the imprisonment rate for crack was 99%, the overall imprisonment rates for blacks convicted of trafficking in all kinds of cocaine was higher than for whites. And because the sentences for crack were so much longer than for powdered cocaine (approximately twice as long), the average sentences given to all black traffickers were longer than those given to whites. In other words, much of the black/white difference in sentencing for cocaine trafficking resulted from black offenders being prosecuted far more frequently for a crime that Congress chose to punish very severely.

How much of the black/white difference that could be explained is seen in Table 5.6. Among all Federal offenders sentenced for all kinds of crimes between January 20, 1989, and June 30, 1990, blacks' sentences were 41% longer than sentences for whites. When those convicted of crack trafficking are removed from the comparison, the difference shrinks to 26%. (When traffickers in any form of cocaine are removed, black sentences averaged 16% longer than whites.)

Table 5.6

**Numbers, Mean Length of Prison Sentences (in Months), and Ratios of Black to White Sentences
(Guideline Cases: January 20, 1989 - June 30, 1990)**

<u>Primary offense at conviction</u>	Whites		Blacks		<u>Black/White</u>
	<u>No.</u>	<u>Mean</u>	<u>No.</u>	<u>Mean</u>	
All offenses	11,545	50.4 mos.	7,680	71.1 mos.	141%
Crack trafficking	112	129.9	853	140.1	
Residual	11,433	49.6	6,827	62.4	126%
Other cocaine*	2,588	72.0	2,260	87.2	
Residual	8,845	43.1	4,567	50.2	116%

NOTE: Includes only offenders sentenced to imprisonment.

* Includes offenders unambiguously identified as powder cocaine traffickers and 1,165 for whom cocaine type could not be inferred.

Nearly all of the black/white difference in sentences for cocaine trafficking was accounted for by the heavy dominance of blacks in crack cases. Sentences imposed for trafficking in crack were not significantly different among the three race/ethnicity groups. However, there were differences in sentences for powdered cocaine. Hispanics were sentenced to imprisonment for the longest average time—95 months, compared with 71 and 73 months for whites and blacks, respectively. To understand why sentences were different for whites, blacks, and Hispanics who were convicted for trafficking in the same form of cocaine, we undertook a more intensive analysis.

Sentencing for Powdered Cocaine

Most trafficking charges were for powdered cocaine. During the January 20, 1989-June 30, 1990, period, 5,869 persons were unambiguously identified as having been convicted of trafficking in powdered cocaine. This represented approximately 72% of all offenders charged with cocaine trafficking. Forty-one percent were white, 29% black, and 30% Hispanic (Table 5.4). Ninety-six percent of all

offenders convicted of trafficking in powdered cocaine were sentenced to prison, for an average sentence of 79 months (Table 5.7).

Ninety-three percent of the offenders were convicted of cocaine distribution; convictions for importation were much less common (6%), and manufacturing even less common (less than 1%). Statutes proscribing participation in a "continuing criminal enterprise" were used in a very small number of cases: three-tenths of one percent. However, the probation officers identified 27% as having committed their crime as part of a criminal organization.

Although 96% of those convicted went to prison, certain characteristics were found to be correlated with receiving an imprisonment sentence, as Table 5.8 shows.⁶ The quantity of cocaine was the main factor governing sentencing decisions. Ten percent of offenders in cases involving less than 100 grams of cocaine powder were given sentences not requiring imprisonment, compared to 1/2% of offenders in cases involving 10 kilograms or more. Only one offender with two or more prior drug trafficking convictions was not sent to prison. In addition, men were more likely to be imprisoned than women upon conviction, as were those who were deemed to be more culpable (when acting with others), and those who committed their offense as part of an ongoing organized criminal enterprise.

The length of sentence was found to be associated with many more characteristics (Table 5.8). The factor most strongly correlated with longer sentences was larger amounts of cocaine distributed. Generally, those with longer and more serious criminal records were given longer terms. Those few offenders who were described as having used a weapon or inflicting injuries were more likely to receive longer sentences. Longer sentences were also correlated with committing the offense as part of an organized criminal enterprise, and with being a leader in such an enterprise or with being the more culpable party if the offense was not considered an "organized" crime but instead a less-sophisticated crime involving other offenders. Sentences were longer for that small number of offenders convicted of importing or manufacturing the drug. Sentences were also longer for those convicted in the South, for those who worked fewer months during the year prior to arraignment, for those not identified as having a drug problem, for males, for older offenders, and for those convicted in the District of Columbia or the Ninth Circuit. (See Figure 5.3 for the geographical areas covered by each of the Federal circuits.)

⁶ The correlation coefficients shown in Table 5.8, and in similar ones that follow in subsequent sections, range from -1.00 to 1.00, indicating no correlation or perfect correlation, respectively, between the indicated pair of variables. A negative sign indicates a reverse correlation, so that a high value of one variable is correlated with a lower value of the other. Statistical significance is indicated by asterisks. With this number of cases, correlations greater than .03 are significant at the .01 level.

Table 5.7

**Descriptive Statistics for Powdered Cocaine Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)**

Sentencing Outcomes

LOCKEDUP	(received prison sentence)	96.4 %
PRISMO4	(length of prison sentence imposed)	79.0 mos.

Characteristics of Offenses

MAJ6700	(major offense of conviction: heroin/cocaine)	0.03 %
MAJ6701	(major offense of conviction: cocaine distribution)	93.2 %
MAJ6702	(major offense of conviction: cocaine importation)	6.0 %
MAJ6703	(major offense of conviction: cocaine manufacture)	0.8 %
MAJ6800	(major offense of conviction: continuing criminal enterprise)	0.3 %
MAJ6801	(major offense of conviction: controlled substance distribution)	1.7 %
MAND_MIN	(subject to mandatory minimum prison sentences)	18.2 %
COCAIN_L	(logarithm of gram weight of drug)	7.3 %
NOWEAPON	(no weapon or threat was used by offender)	81.6 %
GUN	(gun was present at the time of offense)	1.8 %
THREAT	(weapon present and displayed but not used otherwise)	1.7 %
USED	(firearm, knife, or other weapon used by offender)	0.2 %
SEC_GUN	(secondary Federal firearms or weapons offense)	3.5 %
FELONY	(principal offense of conviction was felony)	100.0 %
MULTIPLE	(offender convicted of multiple offenses)	22.9 %
ONGOING	(offense involves multiple or ongoing crimes)	53.3 %
ON_GO	(offense was part of an ongoing organized criminal enterprise)	27.2 %
SOLO	(acted alone)	21.8 %
LEADER	(offender played a leadership role in an organized crime)	0.8 %
WORKER	(offender played a role of a worker in an organized crime)	1.3 %
SUPERVIS	(offender played a role of a supervisor in an organized crime)	0.5 %
MORECULP	(role of offender was of greater culpability when acting with others)	25.0 %
LESSCULP	(role of offender was of lesser culpability when acting with others)	26.3 %
SAMECULP	(role of offender was of equal culpability when acting with others)	24.4 %
ROLEMISS	(information about offender's role was missing)	0.0 %

Characteristics of Offenders' Criminal History/Criminal Livelihood

CONVADT	(no. of prior adult convictions)	1.1
CONF1Y	(no. of times confined 1 year or less)	0.2
CONF15Y	(no. of times confined 1 to 5 years)	0.2
CONF5YRN	(no. of times confined more than 5 years)	0.1
THISOFF	(no. of times previously convicted of this offense)	0.3
MONFREE	(no. of months free since last incarceration of more than 30 days)	67.0 mos.
FREE	(not under criminal justice supervision at time of offense)	77.9 %
PANDP	(on probation or parole at time of offense)	14.8 %
ON_BAIL	(offender on bail at time of offense)	3.3 %
ANY_REV	(any prior revocation of supervision order)	10.4 %

Case Processing Characteristics

EARLPLEA	(pledged guilty at initial hearing)	37.2 %
LATEPLEA	(changed plea to guilty in later hearing)	43.2 %
TRIAL	(convicted by trial)	18.7 %
PLEAMISS	(missing information about plea/trial)	1.0 %
BARGAIN	(charges reduced/dismissed)	57.7 %

Table 5.7 (continued)

**Descriptive Statistics for Powdered Cocaine Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)**

Characteristics That Judges Are Prohibited or Discouraged from Considering When Determining Sentence

AGE1	(age at sentencing)	33.1 yrs.
MALE	(gender of offender)	86.5 %
EMPLBEG	(no. of months worked during year prior to arraignment)	6.6 mos.
EMPLMO	(monthly salary during year prior to arraignment)	\$742
DOPER	(drug problem identified)	41.5 %
CIRDC	(District of Columbia)	20.5 %
CIR01	(First Circuit)	4.2 %
CIR02	(Second Circuit)	10.1 %
CIR03	(Third Circuit)	4.0 %
CIR04	(Fourth Circuit)	10.7 %
CIR05	(Fifth Circuit)	9.6 %
CIR06	(Sixth Circuit)	10.2 %
CIR07	(Seventh Circuit)	7.0 %
CIR08	(Eighth Circuit)	7.1 %
CIR09	(Ninth Circuit)	12.6 %
CIR10	(Tenth Circuit)	3.9 %
SOUTH	(sentenced in the southern region of the United States)	46.4 %
BLACK	(non-Hispanic Black)	33.0 %
HISPANIC	(Hispanic origin)	27.5 %
WHITE	(non-Hispanic White)	39.5 %

na. = data not collected during this period

Table 5.8

**Cocaine Powder Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)**

	<u>Sentenced to Prison</u>	<u>Logarithm of Sentence Length</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
<u>Sentencing Outcomes</u>					
LOCKEDUP			-.06***	-.00	.07***
PRISMO_L			-.10***	-.09***	.19***
<u>Characteristics of Offenses</u>					
MAJ6701	-.02	-.08***	.04**	.10***	-.15***
MAJ6702	.02	.08***	-.06***	-.10***	.16***
MAJ6703	-.00	.02	.04**	-.04**	-.01
MAND_MIN	.06***	.12***	-.03**	.01	.03*
COCAIN_L	.14***	.65***	-.03*	-.23***	.26***
NOWEAPON	-.05***	-.15***	.02	-.07***	.04**
GUN	.01	.08***	-.02	.02	-.00
THREAT	.01	.07***	-.01	.02	
USED	.01	.05***	-.02	.04**	-.00
SEC_GUN	.04**	.11***	.02	.04***	-.06***
FELONY	.06***	.04**	-.03*	.01	.02
MULTIPLE	.09***	.30***	-.04**	-.02	.07***
ONGOING	-.00	.03*	.14***	.04**	-.19***
ON_GO	.06***	.17***	.07***	.00	-.08***
SOLO	.00	-.14***	-.06***	.09***	-.02
LEADER	.02	.08***	.01	.01	-.03
WORKER	.02	.02	-.00	.00	-.00
SUPERVIS	-.00	.05***	-.02	.03*	-.01
MORECULP	.09***	.24***	-.00	-.01	.01
LESSCULP	-.15***	-.16***	.05***	-.00	-.05***
SAMECULP	.05***	.02	.01	-.08***	.07***
ROLEMISS	.00	-.01	.02	-.01	-.01
<u>Characteristics of Offenders' Criminal History/Criminal Livelihood</u>					
CONVADT	.04***	.06***	.03*	.14***	-.17***
CONFLYN	.02	.06***	-.03	.11***	-.08***
CONF15Y	.03*	.13***	-.03*	.10***	-.07***
CONF5YRN	.02	.08***	-.00	.04**	-.04**
THISOFF	.05***	.09***	-.04**	.11***	-.07***
MONFREE	-.05***	-.10***	.05***	-.12***	.07***
FREE	-.04***	-.09***	.04***	-.13***	.08***
PANDP	.03**	.09***	-.04**	.11***	-.07***
ON_BAIL	.01	.01	-.00	.05***	-.04**
ANY_REV	.04**	.07***	-.04**	.14***	-.09***

Table 5.8 (continued)

**Cocaine Powder Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)**

	<u>Sentenced to Prison</u>	<u>Logarithm of Sentence Length</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
<u>Case Processing Characteristics</u>					
EARLPLEA	-.04**	-.03*	-.04**	-.09***	.14***
LATEPLEA	-.04**	-.20***	.11***	.06***	.18***
TRIAL	.09***	.34***	-.10***	.03*	.07***
PLEAMISS	.02	-.21***	.02	.02	-.04**
BARGAIN	-.06***	-.18***	.05***	-.07***	.02
<u>Characteristics That Judges are Prohibited or Discouraged from Considering When Determining Sentence</u>					
AGE1	.00	.14***	.08***	-.17***	.08***
MALE	.17***	.13***	-.00	-.03*	.03*
EMPLBEG	-.02	-.04**	.13***	-.14***	-.01
EMPLMO	-.01	.01	.09***	-.06***	-.03**
DOPER	-.02	-.20***	.15***	.13***	-.28***
CIRDC	.04**	.19***	-.11***	-.10***	.21***
CIR01	.02	.00	.08***	-.11***	.02
CIR02	-.01	-.04***	.00	-.11***	.11***
CIR03	-.02	-.04**	.02	.02	-.05***
CIR04	-.07***	-.05***	.02	.16***	-.18***
CIR05	.01	-.04**	-.11***	.04**	.08***
CIR06	.00	-.10***	-.00	.19***	-.18***
CIR07	.00	-.02	.11***	-.01	-.11***
CIR08	.03**	-.05***	.06***	.08***	-.14***
CIR09	-.02	.08***	.01	-.11***	.10***
CIR10	.01	-.03	.02	-.02	-.01
SOUTH	-.00	.05***	-.12***	.09***	.05***

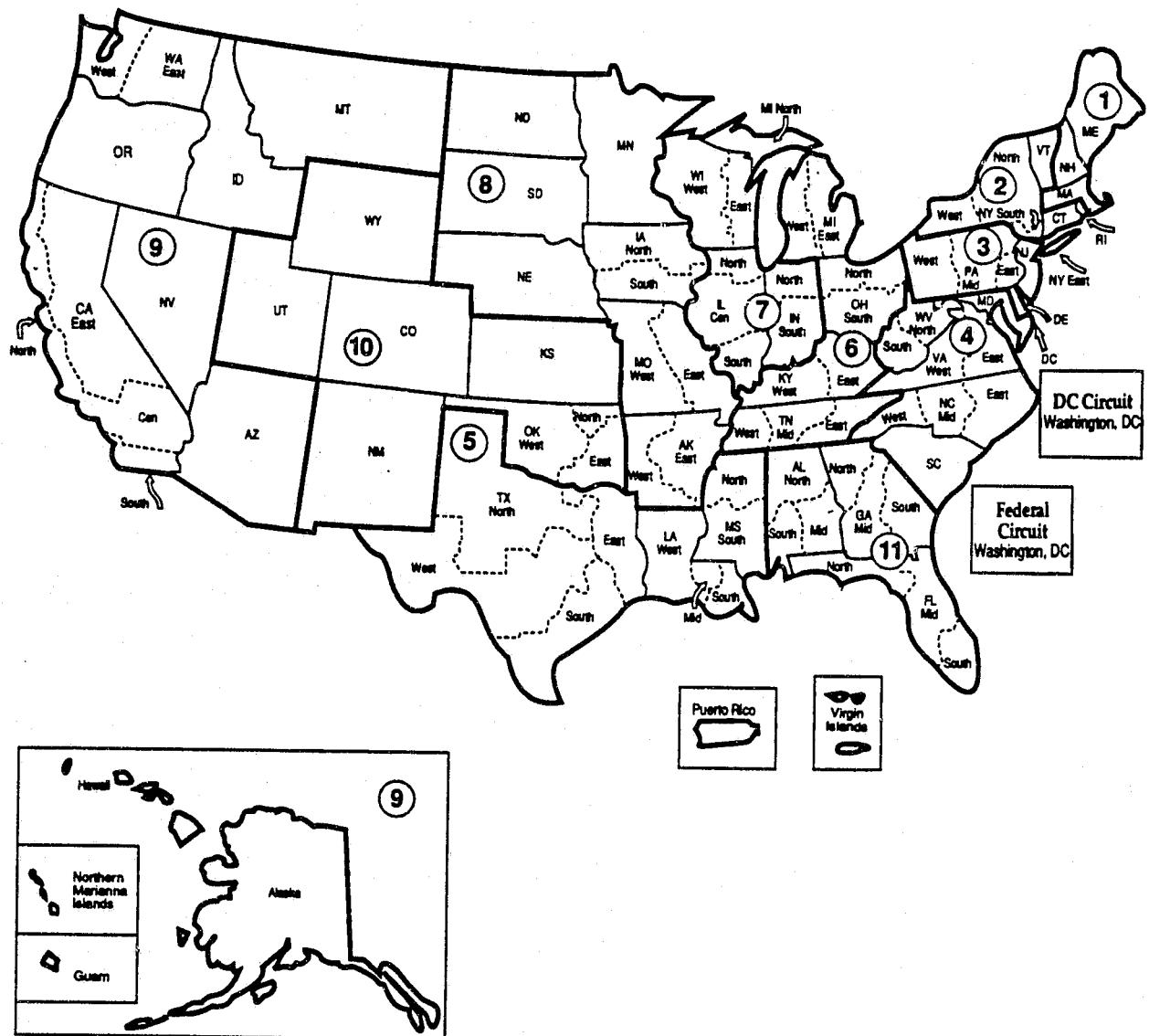
*** p < .001

** p < .01

* p < .05

Figure 5.3

Geographical Boundaries of United States Courts of Appeals and United States District Courts



Differences Among Whites, Blacks, and Hispanics Convicted of Trafficking in Powdered Cocaine

White, black, and Hispanic offenders differed from one another in those characteristics found to be associated with more severe sentences (Table 5.8). For example, blacks had more adult convictions on their record; were more likely to have been convicted of drug trafficking before; to have been under some form of criminal justice supervision (bail, parole, or probation) in the past and had that status revoked for misconduct; to have been imprisoned before; to have had a gun present at the time of the offense or to have used or threatened with it; to have injured somebody; and to have been under criminal justice supervision or on bail at the time of the offense. Blacks and Hispanics were also more likely to have been convicted of a second charge of violating Federal laws governing firearms and weapons.

The offenders' race/ethnicity was associated with the scale of the drug transaction, with black offenders predominating at the lowest level (the "retail" end of the business). The proportion of Hispanic offenders was largest in cases involving large amounts of cocaine. Hispanic offenders constituted 50% of offenders involved in transactions over 36 kilograms, and they were the most likely to have been charged with importation, which was more heavily sentenced. They generally had the least serious criminal records, however, and were least likely to have been identified by the court as part of an organized criminal enterprise.

The relationship between offender race/ethnicity and the amount of cocaine involved is represented graphically in Figure 5.4. The figure shows the numbers of offenders who were white, black, and Hispanic and who were convicted of trafficking in varying amounts of cocaine. (All offenders were divided into groups, representing ranges of drug weights.) Those numbers of offenders are represented by the bars, and the scale for these bars is shown at the left. The graph also shows clearly that Hispanics were concentrated at the "wholesale" end of the spectrum, with amounts of one kilo or more, while blacks were more commonly convicted of smaller amounts. This is represented by the two curving lines. One indicates the proportion of all offenders convicted of different amounts of cocaine who were Hispanic; the other curve tells the same information but for blacks. (These proportions are measured in "percent black or Hispanic," shown in the vertical axis at the right of the graph.) Half of the first offenders convicted of trafficking in 28 grams or less were black, whereas 10% were Hispanics. At the wholesale levels (one kilogram or more), Hispanics constituted over one-third of all convicted traffickers.

Did These Differences Account for the Dissimilar Sentences?

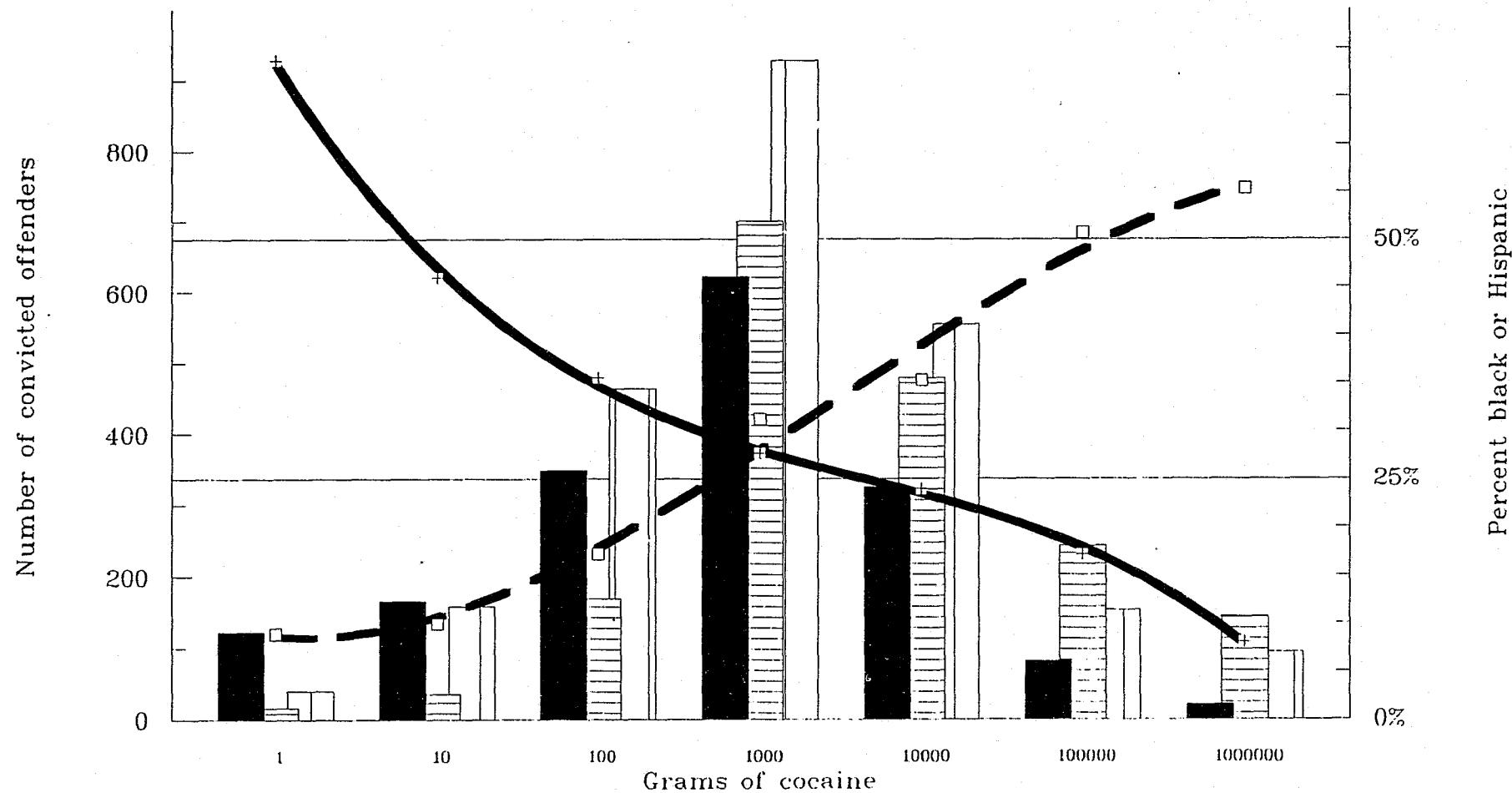
To estimate how dissimilar sentences for whites, blacks, and Hispanics were when these other differences among offenders were accounted for, we constructed multivariate statistical models of the two

Figure 5.4

Cocaine powder
Number of convicted offenders

By race of offender and
weight of cocaine

■ Black ▨ Hispanic □ White
—+— % black —□— % Hispanic



types of sentencing outcomes studied here: imprisonment vs. any other type of non-imprisonment sentence, and the length of sentence imposed upon those sent to prison. For each type of decision, three models were developed: one that included only information about those characteristics of the offense or the offender that were recognized in the sentencing guidelines and significantly improved the accuracy of the model; the same model without the race/ethnicity variable; and a more inclusive model that incorporated information about a wider variety of characteristics, not all of which were legitimate for the courts to consider. Table 5.9 shows the coefficients estimated for each of the variables in the first model. At the bottom of this table are statistics showing the improvement in the model's predictive power resulting from the addition of the race/ethnicity information. The more inclusive model is in Appendix 2 (Table A-5.9).

The logistic regression model of the incarceration decision estimates that the odds of imprisonment were about twice as great for Hispanic offenders as for whites, and about 38% greater for black offenders than for whites, after imposing statistical controls for other differences among offenders that affect sentencing.⁷ The significance level for the residual ("unexplained") difference in sentencing associated with being black is .07 (.35 in the model that incorporates variables not recognized as legitimate for sentencing guideline calculation). This means that we cannot reject (at the 95% confidence level) the null hypothesis that black and white offenders have the same odds of receiving a prison sentence, considering the joint effects of race and the other variables in the model. The significance level for Hispanic offenders is much smaller (.0014), which would ordinarily be strong evidence against the null hypothesis. Examination of goodness of fit statistics from models with and without race information indicates that the race variable contributes almost nothing to the accuracy of the fit. The number of correct predictions of the sentence type increases by exactly one person when race information is included in the model. Thus despite the non-zero coefficient, we conclude that race or ethnicity is not a factor in determining sentences to prison for cocaine powder trafficking.

Regression analysis of the length of sentence imposed on those sentenced to prison is shown in Table 5.10. The estimate of the joint effect of race when other legally relevant factors are included in the model is small, but significantly greater than zero. The model estimates that black offenders received prison sentences averaging 7% longer than those imposed on whites, while sentences for Hispanic offenders averaged 10% longer.⁸ When a variety of other characteristics are included in the model, the estimated differences change little (see Table A-5.10 in Appendix 2).

⁷ See Chapter 4 for a full description of model construction and the meaning of table items.

⁸ The 95% confidence intervals are (3.8% - 10.6%) for the difference between blacks and whites, and (7.0% - 13.9%) for the difference between Hispanic and white offenders.

Table 5.9
Imprisonment/Not Imprisonment Sentences for Trafficking in Cocaine Powder: Logistic Regression Models
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>p(B=0)</u>	<u>exp(B)</u>
Offense characteristics		
COCAIN_L	.0000	1.2759
NOWEAPON	.0350	.5280
MULTIPLE	.0008	4.2010
ON_GO	.0044	1.9816
ROLE	.0000	
Prior record		
THISOFF	.0132	1.7984
MONFREE	.0024	.9809
Plea or trial		
METHOD	.0127	
Other sources of variation		
RACE	.0036	
BLACK	.0708	1.3846
HISPANIC	.0014	2.0915
Constant	.0000	

Model	chi square	df	p
Excluding race	1281.89	4731	
Including race	1269.96	4729	
Difference	11.93	2	.0026

Table 5.10
Length of Prison Sentences for Trafficking in Cocaine Powder: OLS Regression Models
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
Offense characteristics			
COCAIN_L	.1985	22%	.0000
MAND_MI2	.1922	21%	.0000
NOWEAPON	-.1930	-18%	.0000
THREAT	.1615	18%	.0086
SEC_GUN	.2590	30%	.0000
MULTIPLE	.2223	25%	.0000
ON_GO	.0719	7%	.0001
Role in the offense			
MORECULP	.1667	18%	.0000
LESSCULP	-.2414	-21%	.0000
Offender's prior record			
CONF1TYN	.0524	5%	.0002
CONF1SY	.1038	11%	.0000
CONF5YRN	.0984	10%	.0001
THISOFF	.0815	8%	.0000
MONFREE	-.0014	0%	.0055
PANDP	.1630	18%	.0000
Plea or trial			
LATEPLEA	-.0547	-5%	.0019
TRIAL	.3751	46%	.0000
MISSMETH	-1.0871	-66%	.0000
BARGAIN	-.0419	-4%	.0212
Race/ethnicity			
BLACK	.0693	7%	.0003
HISPANIC	.0993	10%	.0000
Constant	2.5645	12.99	.0000

Model	R ²	df	p
Excluding race	.6148	5571	
Including race	.6169	5569	
Difference	.0021	2	<.0001

These relatively small remaining effects may not be meaningful even though they are statistically significant. Because these particular estimates are based on more than 5,000 observations, even relatively small differences may be reported as statistically significant.

Furthermore, additional refinements to the model or the data could reduce the estimated residual effects even further. For example, because the source data do not explicitly report eligibility for mandatory sentencing laws, the variable in the regression model that indicates this eligibility was actually inferred from other items on the record and may be erroneous in a few cases. Moreover, the variable does not indicate the specific length of the mandatory minimum sentence required by law or recommended in the sentencing guidelines. More precise or validated specification of a variable describing mandatory minimum sentences could change the model's estimates of ethnic differences.

Technical changes in fitting the model could also reduce the influence of a few cases with extremely large residuals or unusual combinations of offense and offender characteristics. We undertook a robust regression (not shown) which did reduce the influence of these extreme cases, and it reduced the estimated difference in imposed sentence length between white and Hispanic offenders. Any findings that are sensitive to minor changes in model specifications such as these must be interpreted with caution.

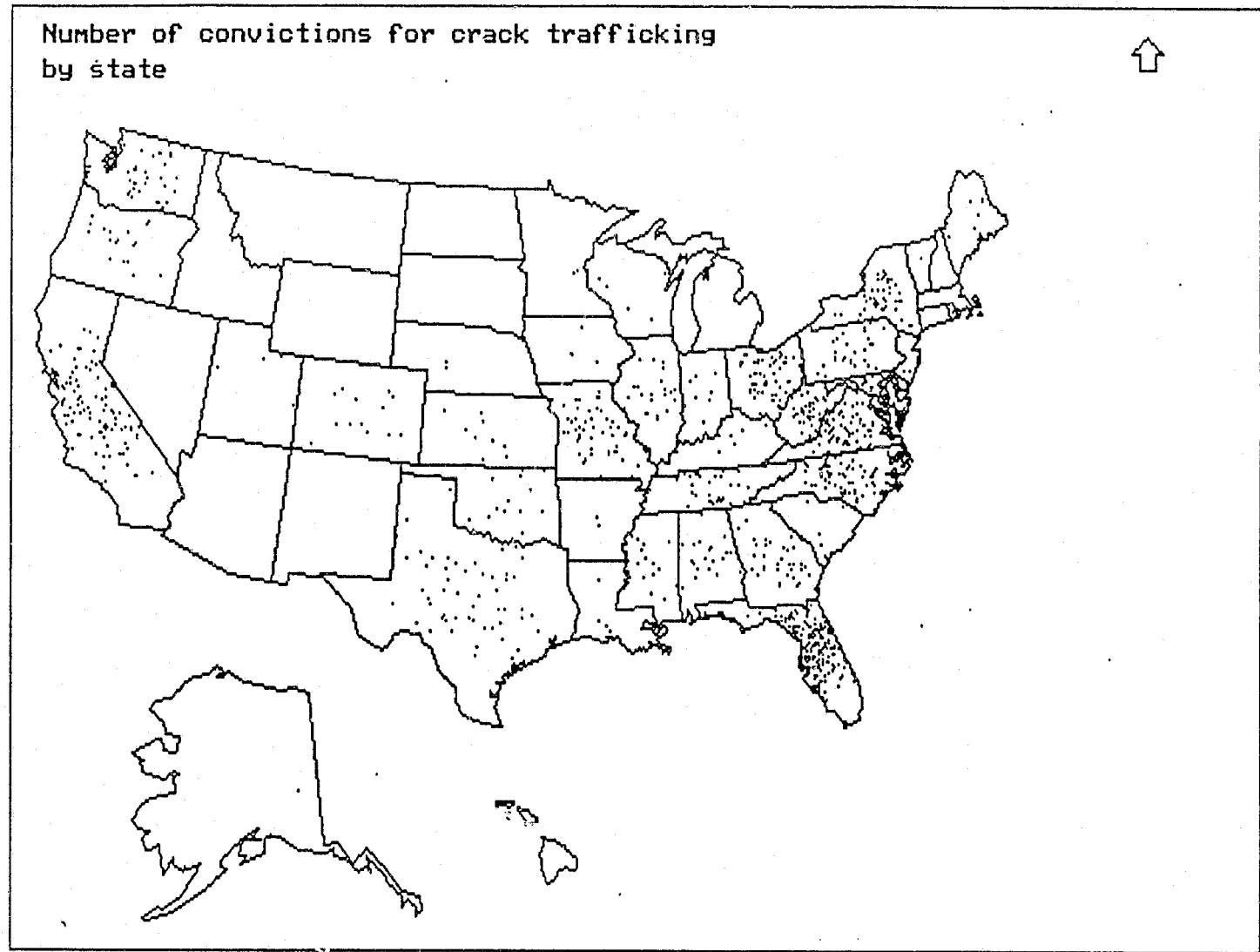
Sentencing of Crack Traffickers

Of those convicted in the Federal courts of cocaine trafficking between January 20, 1989, and June 30, 1990, 1,047 black, white, or Hispanic persons were identified by us as having been convicted of trafficking in crack. Unlike those convicted of powdered cocaine, the vast majority (83%) were black. Seven percent of all crack traffickers were Hispanic, 11% were white (Table 5.4). Crack convictions were highly concentrated in certain regions of the U.S. (Figure 5.5). Approximately 40% of the convictions occurred in Florida, North Carolina, Virginia, and California. All but 1% of those convicted received prison sentences, averaging 141 months, compared to 79 months for powdered cocaine (Table 5.11).

Those convicted of trafficking in crack had more prior criminal convictions on their records (1.7), compared with persons convicted of powdered cocaine (1.1). They were also about twice as likely to have been revoked on probation or parole for an earlier offense, and a larger proportion of them were under criminal justice supervision when they committed their instant offense—37%, compared with 22% of those convicted of powdered cocaine. One quarter were on probation or parole at the time of their arrest. Thirty-one percent were identified as committing their crime as part of an organized criminal enterprise—approximately the same proportion as for powdered cocaine.

Because nearly all persons convicted of crack trafficking went to prison, there were no differences in imprisonment rates for whites, blacks, and Hispanics. However, there were apparent differences in

Figure 5.5



Legend: Each dot represents one conviction; exact location of dot is random, and therefore meaningless.

Table 5.11

**Descriptive Statistics for Crack Cocaine Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)**

Sentencing Outcomes

LOCKEDUP	(received prison sentence)	99.0 %
PRISMO4	(length of prison sentence imposed)	141.2 mos.

Characteristics of Offenses

MAJ6701	(major offense of conviction: cocaine distribution)	97.9 %
MAJ6702	(major offense of conviction: cocaine importation)	0.9 %
MAJ6703	(major offense of conviction: cocaine manufacture)	1.2 %
MAND_MIN	(subject to mandatory minimum prison sentences)	32.5 %
COCAIN_L	(logarithm of gram weight of drug)	4.5 %
NOWEAPON	(no weapon or threat was used by offender)	75.2 %
GUN	(gun was present at the time of offense)	3.5 %
THREAT	(weapon present and displayed but not used otherwise)	3.5 %
USED	(firearm, knife, or other weapon used by offender)	0.5 %
SEC_GUN	(secondary Federal firearms or weapons offense)	6.8 %
FELONY	(principal offense of conviction was felony)	100.0 %
MULTIPLE	(offender convicted of multiple offenses)	27.5 %
ONGOING	(offense involves multiple or ongoing crimes)	59.5 %
ON_GO	(offense was part of an ongoing organized criminal enterprise)	30.8 %
SOLO	(acted alone)	22.8 %
LEADER	(offender played a leadership role in an organized crime)	1.7 %
WORKER	(offender played a role of a worker in an organized crime)	1.5 %
SUPERVIS	(offender played a role of a supervisor in an organized crime)	1.3 %
MORECULP	(role of offender was of greater culpability when acting with others)	30.6 %
LESSCULP	(role of offender was of lesser culpability when acting with others)	14.4 %
SAMECULP	(role of offender was of equal culpability when acting with others)	27.6 %
ROLEMISS	(information about offender's role was missing)	0.0 %

Characteristics of Offenders' Criminal History/Criminal Livelihood

CONVADT	(no. of prior adult convictions)	1.7
CONFLTYN	(no. of times confined 1 year or less)	0.3
CONF15Y	(no. of times confined 1 to 5 years)	0.3
CONF5YRN	(no. of times confined more than 5 years)	0.1
THISOFF	(no. of times previously convicted of this offense)	0.4
MONFREE	(no. of months free since last incarceration of more than 30 days)	59.8 mos.
FREE	(not under criminal justice supervision at time of offense)	62.5 %
PANDP	(on probation or parole at time of offense)	25.5 %
ON_BAIL	(offender on bail at time of offense)	4.0 %
ANY_REV	(any prior revocation of supervision order)	18.1 %

Case Processing Characteristics

EARLPLEA	(pledged guilty at initial hearing)	25.3 %
LATEPLEA	(changed plea to guilty in later hearing)	41.7 %
TRIAL	(convicted by trial)	32.8 %
PLEAMISS	(missing information about plea/trial)	0.2 %
BARGAIN	(charges reduced/dismissed)	51.4 %

Table 5.11 (continued)

**Descriptive Statistics for Crack Cocaine Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)**

Characteristics That Judges Are Prohibited or Discouraged from Considering When Determining Sentence

AGE1	(age at sentencing)	29.2 yrs.
MALE	(gender of offender)	88.5 %
EMPLBEG	(no. of months worked during year prior to arraignment)	4.8 mos.
EMPLMO	(monthly salary during year prior to arraignment)	\$462
DOPER	(drug problem identified)	49.6 %
CIRDC	(District of Columbia)	23.0 %
CIR01	(First Circuit)	0.9 %
CIR02	(Second Circuit)	4.3 %
CIR03	(Third Circuit)	4.3 %
CIR04	(Fourth Circuit)	19.0 %
CIR05	(Fifth Circuit)	7.7 %
CIR06	(Sixth Circuit)	11.1 %
CIR07	(Seventh Circuit)	2.3 %
CIR08	(Eighth Circuit)	6.5 %
CIR09	(Ninth Circuit)	17.3 %
CIR10	(Tenth Circuit)	3.7 %
SOUTH	(sentenced in the southern region of the United States)	55.0 %
BLACK	(non-Hispanic Black)	82.5 %
HISPANIC	(Hispanic origin)	6.5 %
WHITE	(non-Hispanic White)	11.0 %

na. = data not collected during this period

the average lengths of imprisonment sentences imposed. Hispanics received prison sentences averaging 162 months, blacks 140 months, and whites 130 months (Table 5.5). Examination of individual cases reveals that the statistically significant difference between Hispanic and white offenders resulted entirely from two white codefendants in one case who received three-month prison sentences. Excluding even one of these offenders left no statistically significant race effect.

Differences Among Black, White, and Hispanic Crack Traffickers Explain the Dissimilar Sentences

By far the strongest predictor of the length of prison sentences given to crack traffickers was the amount of drug involved. Because whites, blacks, and Hispanics reportedly differed from one another in amounts of crack they trafficked in, their average sentences were dissimilar. Hispanics were convicted of the largest amounts, on average, and blacks the smallest amounts. Hispanics were also more likely to have been convicted of a second charge involving firearms and to have been identified as the more culpable party in transactions involving other offenders—both of which were correlated with receiving a longer sentence (Table 5.12). Blacks were more frequently identified as being subject to mandatory minimum sentences and to have been confined more times in the past for short imprisonment sentences (a year or less). Whites, in contrast, had somewhat more serious criminal histories, having been confined more times previously for longer imprisonment terms.

Regression estimates incorporating these variables show that they completely explained the difference between white and Hispanic offenders (Table 5.13). However, these regressions suggest disproportionately severe sentences for black offenders. Examination of the residuals from these regressions showed a small number of extreme sentences. Robust regression⁹ showed that the apparent differences in sentence length were entirely due to these extreme cases. This is confirmed by comparing the median sentences imposed on black and white offenders at various drug quantity levels (Figure 5.6).

Summary. What apparently produced the seemingly more severe sentences given to black and Hispanic cocaine traffickers was not a dissimilar treatment of these offenders but rather their involvement in, or prosecution for, different types of crimes and differences in other ways that mattered when sentences were determined. The single most important reason for the longer average sentences given to blacks was their predominance in the crack trade (or, more precisely, among those brought into Federal court for trafficking in crack). Because they were disproportionately convicted of a crime that Congress had chosen to penalize especially harshly, the average sentences of all black traffickers were longer than those imposed on whites.

⁹ Iterative OLS, using Tukey's bi-squared weights.

Table 5.12

Crack Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)

	Sentenced to Prison	Logarithm of Sentence Length	White	Black	Hispanic
Sentencing Outcomes					
LOCKEDUP		.00	-.02		.03
PRISMO_L		-.08*	.05		.03
Characteristics of Offenses					
MAJ6701	.05	-.02	.03	.02	-.07*
MAJ6702	-.10**	-.01	.00	-.07*	.11***
MAJ6703	.01	.04	-.04	.03	.00
MAND_MIN	.07*	.06	-.07*	.10**	-.06
COCAIN_L	.03	.67***	.04	-.13***	.14***
NOWEAPON	-.02	-.25***	.03	-.03	.02
GUN	.02	.14***	-.01	-.04	.06*
THREAT	.02	.11***	-.01	-.01	.03
USED	.01	.07*	-.00	-.03	.05
SEC_GUN	.03	.14***	-.03	.05	-.03
MULTIPLE	.06	.33***	-.00	-.03	.05
ONGOING	.02	.14***	.05	-.01	-.05
ON_GO	.01	.24***	.04	-.00	-.05
SOLO	-.04	-.16***	-.01	.05	-.06
LEADER	.01	.10**	.05	-.05	.02
WORKER	.01	-.03	-.04	.06	-.03
SUPERVIS	.01	.02	-.01	.03	-.03
MORECULP	.02	.29***	-.01	-.06	.10**
LESSCULP	-.07*	-.18***	.04	-.05	.03
SAMECULP	.06	-.03	.00	.04	-.06
Characteristics of Offenders' Criminal History/Criminal Livelihood					
CONVADT	.02	.17***	.04	.03	-.10***
CONFLYN	.01	.13***	-.09**	.10**	-.04
CONF15Y	.01	.23***	.08*	-.04	-.04
CONF5YRN	.02	.13***	.08**	-.05	-.03
THISOFF	.05	.15***	.06	-.05	.00
MONFREE	-.02	-.21***	.04	-.05	.02
FREE	-.06	-.15***	.03	-.03	.01
PANDP	.04	.15***	-.03	.04	-.02
ON_BAIL	.02	.02	-.00	.00	-.00
ANY_REV	.05	.13***	-.03	.05	-.03

Table 5.12 (continued)

Crack Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)

	<u>Sentenced to Prison</u>	<u>Logarithm of Sentence Length</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
<u>Case Processing Characteristics</u>					
EARLPLEA	-.01	-.21***	.00	-.04	.06
LATEPLEA	-.06	-.15***	.08*	.00	-.10**
TRIAL	.07*	.37***	-.08**	.03	.05
PLEAMISS	.00	-.11***	-.02	.02	-.01
BARGAIN	-.00	-.27***	.03	.01	-.05
<u>Characteristics That Judges are Prohibited or Discouraged from Considering When Determining Sentence</u>					
AGE1	.03	.06*	.18***	-.20***	.08**
MALE	.20***	.13***	-.01	-.03	.05
EMPLBEG	-.06	-.05	.07*	-.05	-.02
EMPLMO	-.01	.07*	.04	-.02	-.02
DOPER	-.00	-.09**	.06	.02	-.10**
CIRDC	.01	.14***	-.01	.01	-.00
CIR01	.01	.03	.19***	-.21***	.09**
CIR02	-.02	-.08**	-.02	-.11***	.19***
CIR03	.02	-.02	.06	-.06	.01
CIR04	.02	-.01	-.05	.08**	-.07*
CIR05	-.01	-.10**	-.04	.01	.03
CIR06	-.03	-.04	-.01	.04	-.04
CIR07	.02	.01	.23***	-.16***	-.03
CIR08	.03	.08*	-.05	.06	-.03
CIR09	-.01	-.08*	-.05	.04	.00
CIR10	-.03	.04	-.01	.03	-.04
SOUTH	-.01	.04	-.02	.04	-.03

*** p < .001

** p < .01

* p < .05

Table 5.13
Length of Prison Sentences for Crack Cocaine: OLS Regression Models
(Guideline Cases: January 20, 1989 - June 30, 1990)

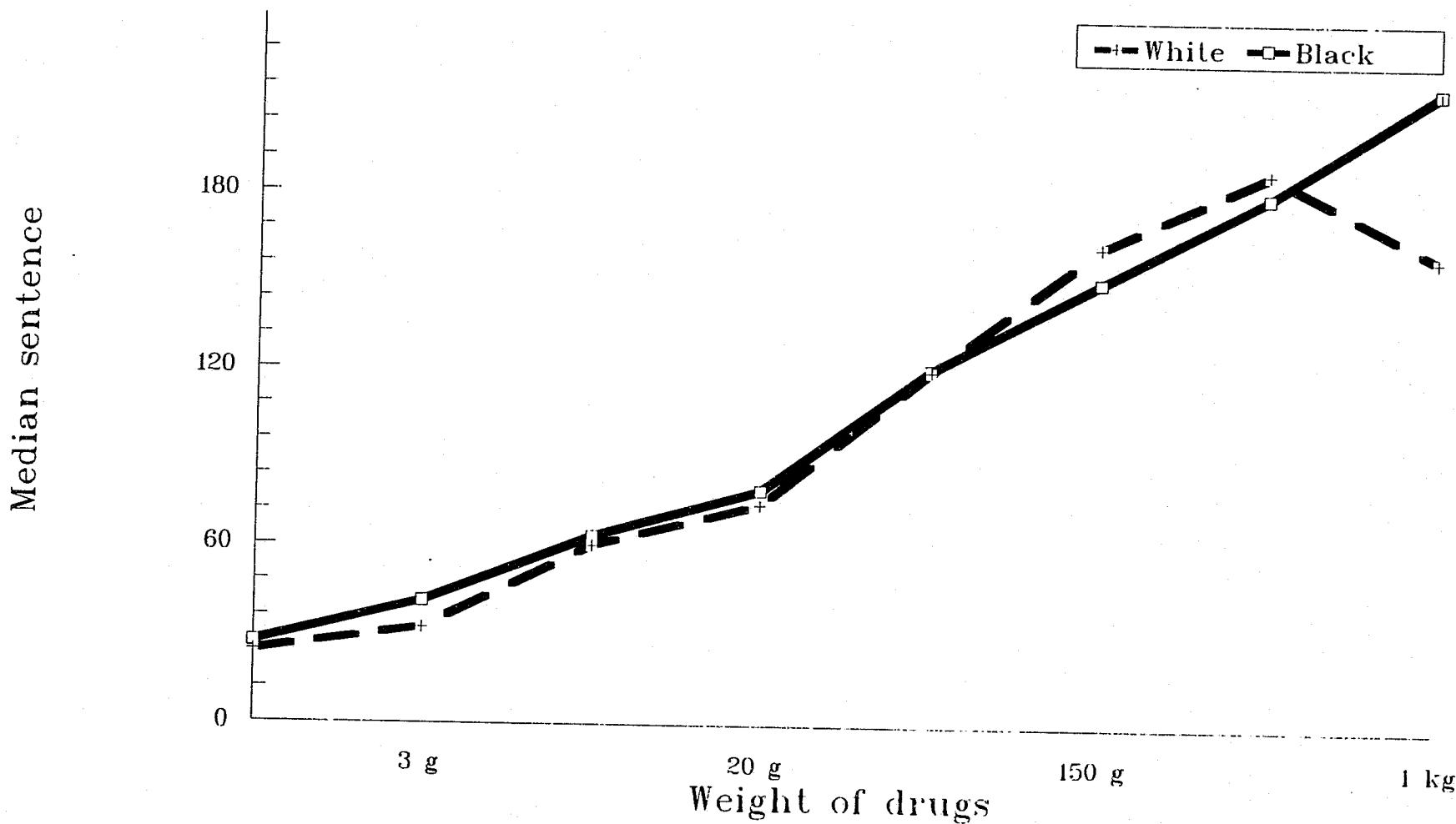
<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
Offense characteristics			
COCAIN_L	.1895	21%	.0000
MAND_MI2	.1334	14%	.0001
NOWEAPON	-.1099	-10%	.0038
THREAT	.2170	24%	.0095
SEC_GUN	.2297	26%	.0016
MULTIPLE	.1449	16%	.0008
ON_GO	.0978	10%	.0041
Role in the offense			
MORECULP	.1028	11%	.0047
LESSCULP	-.1584	-15%	.0003
Offender's prior record			
CONVADT	.0271	3%	.0018
CONF15Y	.0890	9%	.0001
MONFREE	-.0025	0%	.0002
PANDP	.0924	10%	.0108
Plea or trial			
LATEPLEA	.0796	8%	.0365
TRIAL	.3604	43%	.0000
MISSMETH	-1.0818	-66%	.0015
BARGAIN	-.1052	-10%	.0047
Race/ethnicity			
BLACK	.2186	24%	.0000
HISPANIC	.0405	4%	.5842
Constant	3.5219	33.85	.0000

Model	R ²	df	p
Excluding race	.6356	1009	
Including race	.6448	1007	
Difference	.0093	2	<.0001

Figure 5.6

Sale of crack
Median sentence
by race and weight of drugs

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Bank Robbery

Between January 20, 1989, and June 30, 1990, 1,371 offenders who were subject to guidelines were sentenced for bank robbery. Sixty-two percent were white, 33% black, and only 5% were of Hispanic origin. Nearly all (99%) were incarcerated, and the average length of sentence was 95 months in prison, or nearly 8 years (Table 6.1). There was little difference in the incarceration rates for black, white, and Hispanic offenders, as nearly all were sentenced to prison. There was a difference in the average length of sentences imposed on offenders, however. Blacks received an average of 105 months, whites 90 months, and Hispanics 92 months. What accounted for blacks being given sentences that were 15 months—or 17%—longer than those for whites?

Characteristics Associated with Longer Sentences

Most strongly correlated with longer sentences were two clusters of characteristics: various aspects of the offender's prior criminal record, and the amount of violence or injury that was either inflicted or threatened in the course of the robbery (Table 6.2). Prison sentences were longer for those who had more prior imprisonment sentences, prior records of committing bank robberies, and more previous convictions for any criminal offense. Sentences were also longer for persons who had been freed from prior terms of incarceration more recently, and for those who had records of prior revocations of parole or probation. Longer prison sentences were given to persons who displayed, brandished, or discharged a firearm; who used any kind of weapon or threatened the use of a weapon; or who injured someone.

Robbing banks either as part of an organized criminal enterprise or as part of a multiple or ongoing pattern of relatively unsophisticated offenses was also associated with receiving a longer prison sentence. The amount stolen was associated with the length of sentence imposed: on average, sentences increased slightly more than 10% with each doubling of value stolen. Those reported to have been acting in concert with others and deemed more culpable than their codefendants received longer prison sentences. Longer sentences were imposed more on men than on women, and on those who were under criminal justice supervision at the time of committing the offense. Offenders working fewer months during the year prior to arraignment were given longer sentences, and there was a weak negative association between the average salary reported for employment during the year and the length of prison sentence imposed. Those who had pleaded guilty to reduced or dismissed charges received slightly

Table 6.1

**Descriptive Statistics for Bank Robbery Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)**

Sentencing Outcomes

LOCKEDUP	(received prison sentence)	98.9 %
PRISMO4	(length of prison sentence imposed)	95.1 mos.

Characteristics of Offenses

DOL_AMT	(dollar amount involved in the offense)	\$26,065
NOWEAPON	(no weapon or threat was used by offender)	54.1 %
GUN	(gun was present at the time of offense)	35.2 %
THREAT	(weapon present and displayed but not used otherwise)	63.6 %
USED	(firearm, knife, or other weapon used by offender)	4.0 %
NO_INJUR	(no injury to victim)	97.1 %
FELONY	(principal offense of conviction was felony)	100 %
MULTIPLE	(offender convicted of multiple offenses)	20.0 %
ONGOING	(offense involves multiple or ongoing crimes)	44.5 %
ON_GO	(offense was part of an ongoing organized criminal enterprise)	11.7 %
SOLO	(acted alone)	66.2 %
LEADER	(offender played a leadership role in an organized crime)	0.2 %
WORKER	(offender played a role of a worker in an organized crime)	0.1 %
SUPERVIS	(offender played a role of a supervisor in an organized crime)	0.0 %
MORECULP	(role of offender was of greater culpability when acting with others)	12.1 %
LESSCULP	(role of offender was of lesser culpability when acting with others)	5.0 %
SAMECULP	(role of offender was of equal culpability when acting with others)	14.7 %
ROLEMISS	(information about offender's role was missing)	1.7 %

Characteristics of Offenders' Criminal History/Criminal Livelihood

CONVADT	(no. of prior adult convictions)	3.5
CONFLYN	(no. of times confined 1 year or less)	0.9
CONF15Y	(no. of times confined 1 to 5 years)	0.9
CONF5YRN	(no. of times confined more than 5 years)	0.5
THISOFF	(no. of times previously convicted of this offense)	0.6
MONFREE	(no. of months free since last incarceration of more than 30 days)	43.2 mos.
FREE	(not under criminal justice supervision at time of offense)	49.6 %
PANDP	(on probation or parole at time of offense)	36.8 %
ON_BAIL	(offender on bail at time of offense)	2.1 %
ANY_REV	(any prior revocation of supervision order)	41.4 %

Case Processing Characteristics

EARLPLEA	(pledged guilty at initial hearing)	42.4 %
LATEPLEA	(changed plea to guilty in later hearing)	44.7 %
TRIAL	(convicted by trial)	11.3 %
PLEAMISS	(missing information about plea/trial)	1.8 %
BARGAIN	(charges reduced/dismissed at plea)	42.0 %

Table 6.1 (continued)

**Descriptive Statistics for Bank Robbery Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)**

Characteristics That Judges Are Prohibited or Discouraged from Considering When Determining Sentence

AGE1	(age at sentencing)	33.3 yrs.
MALE	(gender of offender)	94.7 %
EMPLBEG	(no. of months worked during year prior to arraignment)	4.4 mos.
EMPLMO	(monthly salary during year prior to arraignment)	\$453
DOPER	(drug problem identified)	63.6 %
CIRDC	(District of Columbia)	12.1 %
CIR01	(First Circuit)	2.9 %
CIR02	(Second Circuit)	2.9 %
CIR03	(Third Circuit)	3.4 %
CIR04	(Fourth Circuit)	11.6 %
CIR05	(Fifth Circuit)	4.6 %
CIR06	(Sixth Circuit)	9.8 %
CIR07	(Seventh Circuit)	5.0 %
CIR08	(Eighth Circuit)	5.7 %
CIR09	(Ninth Circuit)	36.7 %
CIR10	(Tenth Circuit)	5.3 %
SOUTH	(sentenced in the southern region of the United States)	33.4 %
BLACK	(non-Hispanic Black)	32.8 %
HISPANIC	(Hispanic origin)	4.8 %
WHITE	(non-Hispanic White)	62.4 %

na. = data not collected during this period

Table 6.2

**Bank Robbery Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)**

<u>Sentenced to Prison</u>	<u>Logarithm of Sentence Length</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
<u>Sentencing Outcomes</u>				
LOCKEDUP		.03	-.03	-.01
PRISMO_L		-.09***	.09**	.02
<u>Characteristics of Offenses</u>				
L_DOLLAR	.04	.26***	.01	-.06*
NOWEAPON	-.07*	-.35***	.02	
GUN	.05	.37***	-.02	.02
THREAT	.05	.18***	.01	-.02
USED	.02	.15***	-.10***	.00
NO_INJUR	.03	-.06*	.10***	.01
MULTIPLE	.05	.38***	-.05	-.02
ONGOING	.06*	.16***	.00	-.02
ON_GO	.04	.19***	.02	.03
SOLO	.04	-.09**	.06*	.02
LEADER	.00	.08**	-.06*	.07*
WORKER	.00	-.01	-.04	-.01
MORECULP	.02	.11***	-.00	.04
LESSCULP	-.07**	-.11***	-.00	-.02
SAMECULP	-.02	.09***	-.06*	-.05
ROLEMISS	-.10***	-.25***	-.02	-.03
<u>Characteristics of Offenders' Criminal History/Criminal Livelihood</u>				
CONVADT	.08**	.42***	.02	-.04
CONFLTYN	.04	.21***	-.04	.05
CONF15Y	.05	.39***	-.03	.13***
CONF5YRN	.05	.45***	-.01	-.02
THISOFF	.05*	.42***	-.06*	-.01
MONFREE	-.10***	-.42***	.07*	.01
FREE	-.06*	-.27***	.03	-.04
PANDP	.05	.23***	-.00	-.02
ON_BAIL	.02	-.02	-.00	.05
ANY_REV	.06*	.33***	-.02	-.01
<u>Case Processing Characteristics</u>				
EARLPLEA	.03	-.09**	.02	-.05
LATEPLEA	-.03	-.04	.03	-.06*
TRIAL	.04	.32***	-.08**	.06*
PLEAMISS	-.09***	-.28***	.00	-.01
BARGAIN	-.02	-.03	-.01	-.03
				.08**

Table 6.2 (continued)

Bank Robbery Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)

Sentenced to Prison	Logarithm of Sentence Length	White	Black	Hispanic
<u>Characteristics That Judges are Prohibited or Discouraged from Considering When Determining Sentence</u>				
AGE1	-.02	.18***	.16***	-.16***
MALE	.13***	.18***	-.00	-.00
EMPLBEG	-.03	-.12***	.03	-.01
EMPLMO	-.03	-.08**	.07*	-.06*
DOPER	.04	.07*	-.05	.01
CIRDC	.04	.02	.01	.01
CIR01	.02	.03	.05	-.03
CIR02	.02	-.07*	-.08**	.07**
CIR03	-.02	.01	-.01	.03
CIR04	.02	.02	-.21***	.25***
CIR05	.02	-.02	.02	-.05
CIR06	-.01	.03	-.05	.08**
CIR07	-.04	.02	-.10***	.12***
CIR08	.03	.05	.08**	-.06*
CIR09	-.05	-.07**	.14***	-.23***
CIR10	.02	.02	.07*	-.06*
SOUTH	.06*	.02	-.11***	.15***
				-.07**

*** p < .001

** p < .01

* p < .05

shorter sentences. The length of sentence imposed was also correlated with the offender's age, partly attributable to the fact that older offenders also had longer prior records, on average. There were also some regional differences in average length of sentence imposed.

Blacks Differed from Whites in Ways That Mattered at Sentencing

Some of the difference in length of prison sentences given to black bank robbers was attributable to the fact that they or the crimes they committed were more likely to bear the characteristics generally associated with longer sentences. They were somewhat more likely to have been convicted previously of bank robbery than whites, were more likely to have used a weapon in the commission of the bank robbery, and were more likely to have injured somebody in the course of the robbery.

Figures 6.2 and 6.3 compare the length of prison sentences given to black and white bank robbers, holding constant in prior record and the level of violence characterizing the robbery. To produce both of these figures, an index was constructed using several combinations of different variables describing the offender's criminal record—the number of prior convictions and prior incarcerations. This permits a classification of all black and white offenders into 10 groups according to the overall seriousness of their records. The first category includes offenders with no prior convictions. The second, third, and fourth categories represent offenders with no prior incarcerations and (respectively) one, two, and three or more prior convictions. The remaining categories include offenders with at least one prior incarceration. A weighted average was constructed following the formula:

$$\begin{aligned} & 1 * \text{number of short prison terms (1 to 5 years)} \\ & + 2 * \text{long prison terms (over 5 years).} \end{aligned}$$

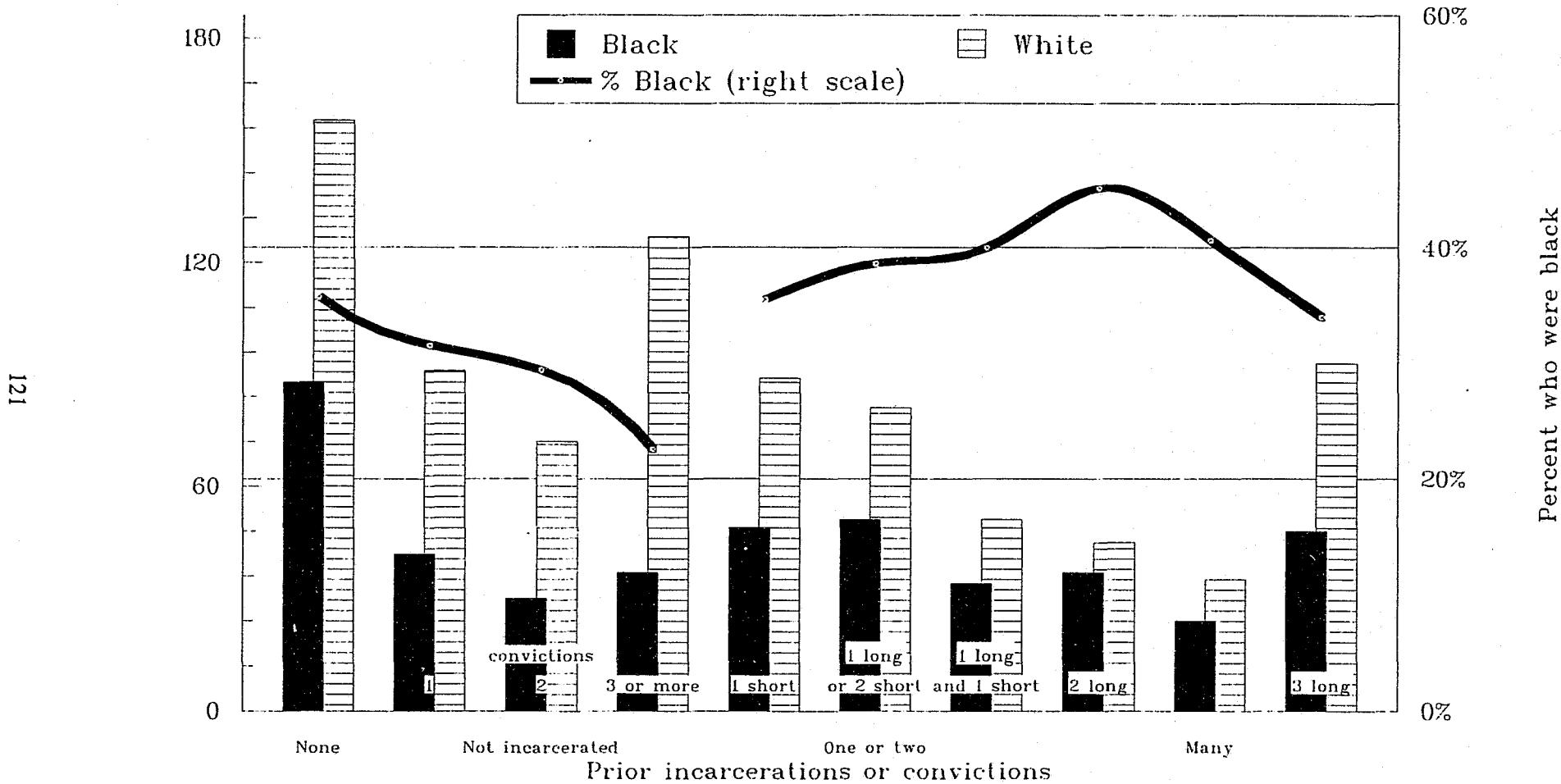
Thus, the fifth category includes offenders with exactly one short prison term. The sixth includes those with two short or one long term, and so on. The tenth includes those with three or more long terms, six or more short terms, or any other combination whose weighted average equals or exceeds six.

Black offenders were more likely than whites to be involved in highly threatening or violent incidents, and were somewhat more likely to have been incarcerated before. To compare the sentences given to blacks and whites with similar prior records and who employed similar violence, separate analyses were conducted for those offenders who committed bank robberies with low levels of violence or no violence. For this purpose, all black and white bank robbers were first divided into two populations on the basis of the degree of violence threatened or used in the robbery. Each of these populations was then categorized further into ten smaller groups, according to the offender's prior record

Figure 6.1

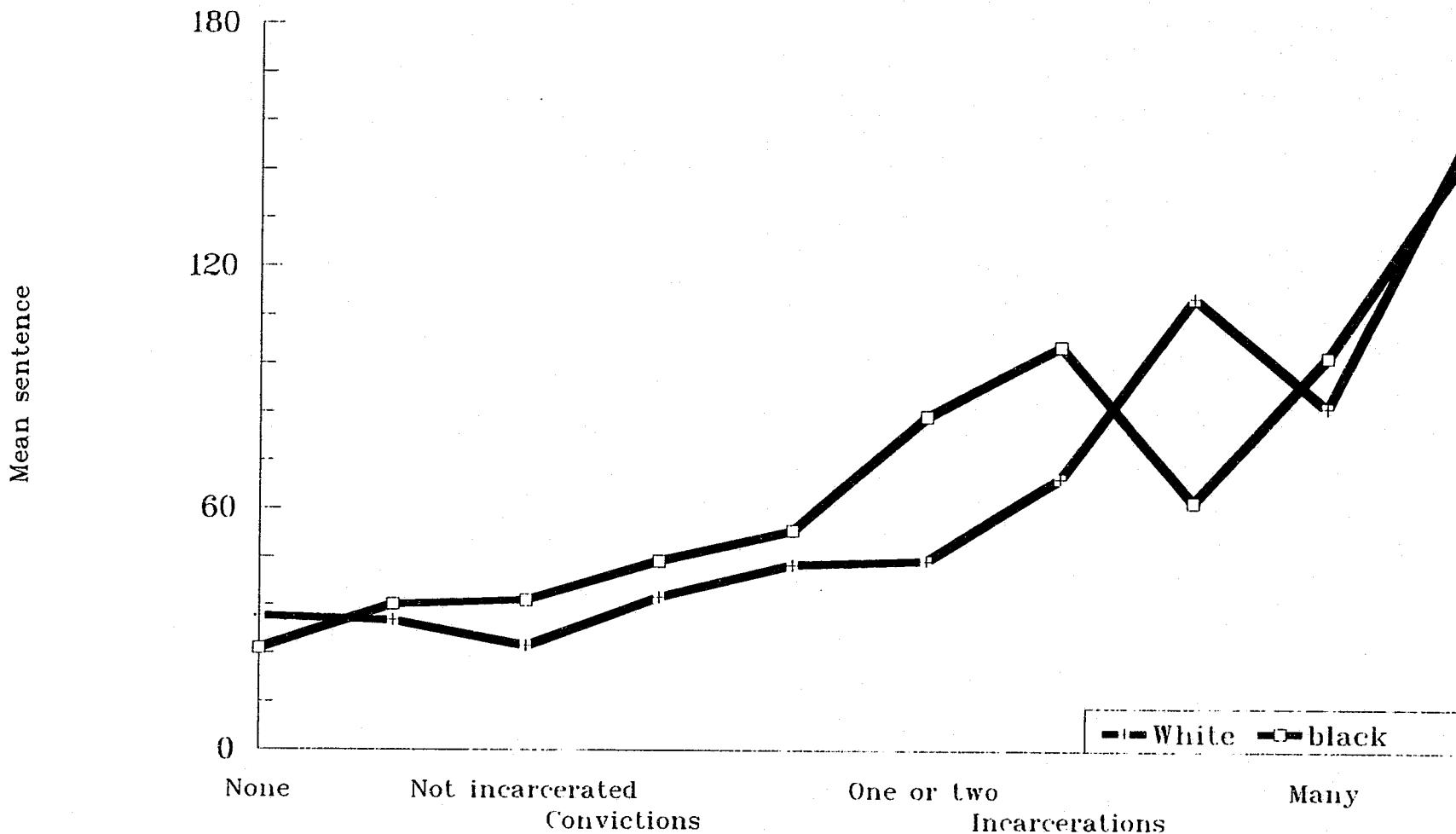
Bank Robbery
Number of convicted offenders

by race and prior record



Bank Robbery
Low threat
by race and prior record

Figure 6.2

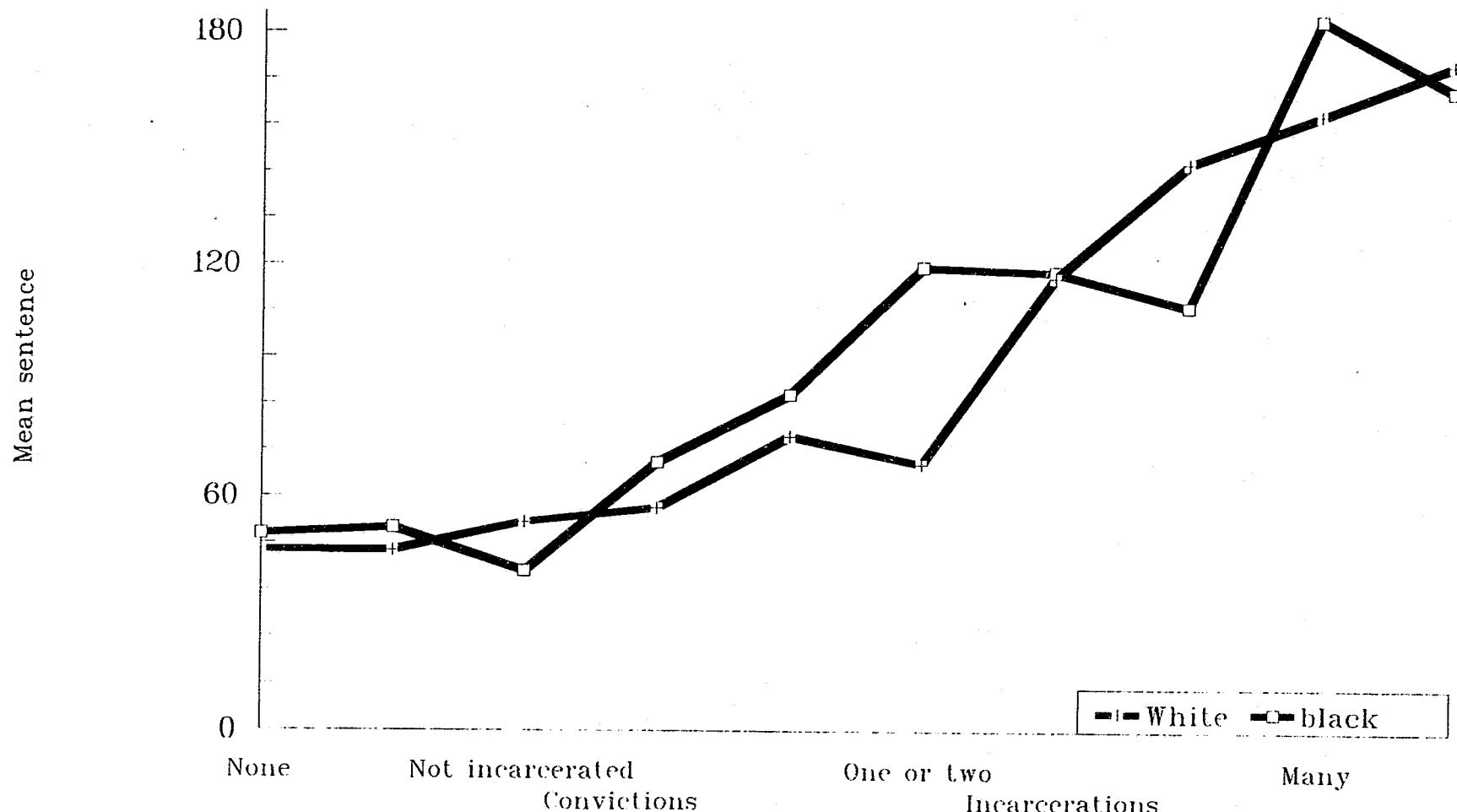


Mean sentences are based on
logarithmic transform

Figure 6.3

Bank Robbery
Violence or threat

by race and prior record



Mean sentences are based on
logarithmic transform

(as measured by the index described above). This yielded 20 comparison groups of similarly situated offenders—similar, that is, in these two important dimensions that were associated with the length of imprisonment sentences.¹

Comparison of Figures 6.2 and 6.3 indicates that the length of imposed sentence was strongly influenced by the level of violence involved (whether the offender fired a gun or caused an injury), as well as by the offender's prior record. Among those who committed robberies without using violence or by employing relatively low levels of threatening behavior (i.e., who did not carry a gun, did not use or threaten to use another weapon if they had it, and inflicted no injuries), whites received systematically shorter sentences than blacks if they had "moderately" bad criminal records ($p < .05$ Figure 6.2). This is evident from the comparison of the curves in the middle categories of prior record. Among those with no prior record, or short records, there was no significant difference in sentence length. Also, in categories of offenders having the longest and most serious prior records, there was little consistent difference in length of sentences imposed.

Among those offenders who employed more threatening behavior or actual violence, roughly the same pattern was found (Figure 6.3). Sentences were longer for blacks who had one or two prior imprisonment sentences on their records ($p < .05$). Among all other groups—those with no prior convictions, and those with many prior incarcerations, whether violent or not—black and white offenders received approximately equal sentences (Figures 6.2 and 6.3).

These findings were supported by models constructed to account for a number of legitimately considered differences among bank robbers given prison sentences. These models were developed to estimate the black/white/Hispanic sentencing differences among all bank robbers sent to prison. The parsimonious version of this first model—an ordinary least-squares regression model shown in Table 6.3—included several features relevant to the determination of the guideline range and found to be the most strongly associated with the length of imposed prison sentences. These included:

- the severity of the offender's prior record,
- the amount of money stolen,
- whether the offender went to trial or pleaded guilty,

¹ White offenders appear to have been able to accrue more convictions without an incarceration than were blacks. Because these refer to prior offenses, no information about the offense characteristics was available that might explain this finding.

Table 6.3
Length of Prison Sentences for Bank Robbery: OLS Regression Models
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	B	exp(B)-1	p(B=0)
Offense characteristics			
L_DOLLAR	.0547	6%	.0000
NOWEAPON	-.1713	-16%	.0004
GUN	.2216	25%	.0000
USED	.1818	20%	.0163
MULTIPLE	.4122	51%	.0000
ONGOING	.1818	20%	.0000
ON_GO	.1597	17%	.0010
Role in the offense			
MORECULP	-.0322	-3%	.4817
LESSCULP	-.3683	-31%	.0000
SAMECULP	-.0440	-4%	.3196
Offender's prior record			
CONVADT	.0343	3%	.0000
CONF15Y	.0668	7%	.0000
CONF5YRN	.1362	15%	.0000
THISOFF	.0936	10%	.0000
MONFREE	-.0034	0%	.0000
PANDP	.0995	10%	.0024
Case processing			
LATEPLEA	.0112	1%	.7163
TRIAL	.3307	39%	.0000
PLEAMISS	-1.1690	-69%	.0000
Race/ethnicity			
BLACK	.0744	8%	.0185
HISPANIC	.0454	5%	.4995
Constant	3.3442	28.34%	.0000

Model	R ²	df	p
Excluding race	.5983	1280	
Including race	.6001	1278	
Difference	.0018	2	.0595

- the offender's relative culpability for the crime, if committed in concert with others,
- whether a gun was used or violence was threatened,
- whether the robbery was committed as part of an organized criminal enterprise, or as a string of multiple, less sophisticated robberies, and
- the circuit in which the case was prosecuted.

The model that included these variables but not information about the offender's race/ethnicity accounted for a substantial proportion (60%) of the observed variance in sentences imposed. Including information about the offender's race/ethnicity increased the variance accounted for only slightly. Moreover, after imposing statistical controls for these other differences, the model estimated that blacks were given slightly longer sentences—about 8% longer—than whites. The probability that this estimate was the result of chance variation was .02. A larger model (shown in the Appendix as Table A-6.3) was then constructed that included more variables, including those not considered legally relevant to sentencing. In this model, the small difference in sentence length for blacks and whites persisted, but its statistical significance was questionable, since the probability of this being the result of chance variation was .085.

Because we found a difference in lengths of prison sentences given to bank robbers with one or two previous convictions and imprisonment sentences on their record, separate models were constructed for this subset of offenders. These models estimated that blacks received sentences about 12% longer than whites—a difference that was statistically significant and was not able to be accounted for as resulting from other measured differences among offenders. Consequently, we concluded that among those convicted of bank robbery, there was evidence that blacks fared worse with respect to the length of their imprisonment sentences, but that this evidence was restricted to a subset of bank robbers, rather than pervasive among all offenders convicted in Federal district courts. It is possible that this pattern resulted from judges' consideration of other differences among offenders not captured in the data files we analyzed.

Weapons Offenses

Between January 20, 1989, and June 30, 1990, 2,138 persons were sentenced for weapons offenses under the guidelines in Federal district courts. Fifty-eight percent were white; 31% were black, and 12% were of Hispanic origin. Eighty-three percent of all persons convicted of weapons charges were given imprisonment sentences, averaging 43 months (Table 7.1). There were some racial/ethnic differences in the severity of imposed sentences. Ninety-one percent of all blacks went to prison, compared to 84% of all Hispanics and 78% of whites. Blacks also received longer prison sentences: 56 months, on average, compared with 42 months for Hispanics and 36 months for whites. Although some of these differences could have resulted from whites, blacks and Hispanics differing from one another in ways that mattered at the point of sentencing, not all could be so explained. In other words, blacks and Hispanics fared worse at sentencing than could be accounted for by other relevant differences (and even legally irrelevant ones in the data).

Differences Among White, Black, and Hispanic Offenders

Black and Hispanic offenders differed from white offenders not only in the types of crimes they committed but also in their criminal records—factors that affected the type and length of sentence they received for weapons offenses (Table 7.2). Although a majority of all offenders were convicted under Title 18 of the U.S. Code, and most often under sections 922-924, which deal with the use of firearms in the commission of a crime,¹ one-third of white offenders were convicted under Title 26, which involves importing, receiving, or trading in unregistered weapons. Only one-sixth of the members of minority groups were convicted under this title. Blacks were somewhat more likely to have made threats. They were also more likely to have been convicted of weapons offenses before and to have had a probation or parole term revoked, and they were more likely to be subject to the mandatory minimum sentencing provisions of the law. Whites, in contrast, had a larger number of prior adult criminal convictions, on average. They had also been out of prison or jail longer than either blacks or Hispanics at the time of arraignment for the instant offense.

¹ Certain violations of 18 U.S.C. 924 carry a mandatory prison sentence, and, indeed, nearly 100% of offenders identified by us as subject to mandatory sentences were incarcerated. The rare exceptions may have reflected sentences based on information not included in our data, which would have avoided the mandatory sentence, or they may reflect errors in our procedures for inferring which offenders were vulnerable to mandatory minimum provisions of the law.

Table 7.1

**Descriptive Statistics for Weapons Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)**

Sentencing Outcomes

LOCKEDUP	(received prison sentence)	82.5 %
PRISMO4	(length of prison sentence imposed)	43.1 mos.

Characteristics of Offenses

MAJ7800	(major offense of conviction: firearms and weapons)	26.2 %
MAJ7820	(major offense of conviction: unlawful possession of firearms)	2.4 %
MAJ7830	(major offense of conviction: firearms)	71.4 %
MAND_MIN	(subject to mandatory minimum prison sentences)	11.1 %
DOL_AMT	(dollar amount involved in the offense)	\$68,662
NOWEAPON	(no weapon or threat was used by offender)	21.0 %
GUN	(gun was present at the time of offense)	9.4 %
THREAT	(weapon present and displayed but not used otherwise)	5.8 %
USED	(firearm, knife, or other weapon used by offender)	4.9 %
NO_INJUR	(no injury to victim)	98.0 %
FELONY	(principal offense of conviction was felony)	97.4 %
MULTIPLE	(offender convicted of multiple offenses)	14.7 %
ONGOING	(offense involves multiple or ongoing crimes)	29.6 %
ON_GO	(offense was part of an ongoing organized criminal enterprise)	8.8 %
SOLO	(acted alone)	67.6 %
LEADER	(offender played a leadership role in an organized crime)	0.0 %
WORKER	(offender played a role of a worker in an organized crime)	0.2 %
SUPERVIS	(offender played a role of a supervisor in an organized crime)	0.1 %
MORECULP	(role of offender was of greater culpability when acting with others)	8.4 %
LESSCULP	(role of offender was of lesser culpability when acting with others)	4.9 %
SAMECULP	(role of offender was of equal culpability when acting with others)	8.8 %
ROLEMISS	(information about offender's role was missing)	10.0 %

Characteristics of Offenders' Criminal History/Criminal Livelihood

CONVADT	(no. of prior adult convictions)	3.3
CONFLTYN	(no. of times confined 1 year or less)	0.7
CONF15Y	(no. of times confined 1 to 5 years)	0.8
CONF5YRN	(no. of times confined more than 5 years)	0.4
THISOFF	(no. of times previously convicted of this offense)	0.3
MONFREE	(no. of months free since last incarceration of more than 30 days)	49.2 mos.
FREE	(not under criminal justice supervision at time of offense)	59.5 %
PANDP	(on probation or parole at time of offense)	27.8 %
ON_BAIL	(offender on bail at time of offense)	4.6 %
ANY_REV	(any prior revocation of supervision order)	34.6 %

Case Processing Characteristics

EARLPLEA	(pledged guilty at initial hearing)	33.6 %
LATEPLEA	(changed plea to guilty in later hearing)	42.7 %
TRIAL	(convicted by trial)	12.2 %
PLEAMISS	(missing information about plea/trial)	11.5 %
BARGAIN	(charges reduced/dismissed)	51.9 %

Table 7.1 (continued)

**Descriptive Statistics for Weapons Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)**

Characteristics That Judges Are Prohibited or Discouraged from Considering When Determining Sentence

AGE1	(age at sentencing)	33.9 yrs.
MALE	(gender of offender)	96.3 %
EMPLBEG	(no. of months worked during year prior to arraignment)	6.1 mos.
EMPLMO	(monthly salary during year prior to arraignment)	\$786
DOPER	(drug problem identified)	44.3 %
CIRDC	(District of Columbia)	12.9 %
CIR01	(First Circuit)	2.6 %
CIR02	(Second Circuit)	3.6 %
CIR03	(Third Circuit)	2.5 %
CIR04	(Fourth Circuit)	15.0 %
CIR05	(Fifth Circuit)	17.7 %
CIR06	(Sixth Circuit)	10.2 %
CIR07	(Seventh Circuit)	4.6 %
CIR08	(Eighth Circuit)	6.0 %
CIR09	(Ninth Circuit)	16.7 %
CIR10	(Tenth Circuit)	8.2 %
SOUTH	(sentenced in the southern region of the United States)	50.8 %
BLACK	(non-Hispanic Black)	30.6 %
HISPANIC	(Hispanic origin)	11.9 %
WHITE	(non-Hispanic White)	57.5 %

na. = data not collected during this period

Table 7.2

Weapons Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)

	Sentenced to Prison	Logarithm of Sentence Length	White	Black	Hispanic
Sentencing Outcomes					
LOCKEDUP			-.14***	.15***	.01
PRISMO_L			-.10***	.12***	-.02
Characteristics of Offenses					
MAJ7800	-.11***	-.13***	.19***	-.15***	-.07**
MAJ7820	.02	.24***	-.02	.04*	-.03
MAND_MIN	.16***	.47***	-.12***	.12***	.01
NOWEAPON	.01	-.30***	-.00	.02	-.03
GUN	.08***	.26***	-.04	.04	-.00
THREAT	.06**	.19***	-.02	.05*	-.04*
USED	.05*	.17***	-.00	-.02	.03
NO_INJUR	-.05*	-.09***	-.02	-.00	.03
FELONY	.27***	.11***	.04	.01	-.08***
MULTIPLE	.11***	.20***	-.01	.04	-.03
ONGOING	.03	.06*	.04	-.02	-.03
ON_GO	.05*	.22***	.04	-.04	.00
SOLO	-.01	-.10***	.04	-.01	-.05*
LEADER	.01	.03	.02	-.01	-.01
WORKER	-.00	.02	-.01	-.03	.05*
SUPERVIS	.02	.01	-.04	.01	.04
MORECULP	.03	.16***	.00	.00	-.01
LESSCULP	-.10***	-.00	-.03	.03	-.00
SAMECULP	.03	.05*	-.03	-.02	.07**
ROLEMISS	.10***	-.31***	-.00	.00	-.00
Characteristics of Offenders' Criminal History/Criminal Livelihood					
CONVADT	.24***	.29***	.07**	.03	-.14***
CONFLYTN	.16***	.19***	-.00	.04	-.06*
CONF15Y	.19***	.32***	.02	.03	-.07**
CONF5YRN	.14***	.29***	.04	-.02	-.03
THISOFF	.14***	.25***	-.05*	.08***	-.04
MONFREE	-.32***	-.27***	.06**	-.10***	.04
FREE	-.24***	-.17***	.03	-.04	.01
PANDP	.18***	.15***	-.04	.03	.01
ON_BAIL	.05*	-.03	-.00	.02	-.02
ANY_REV	.23***	.22***	-.02	.07***	-.07***

Table 7.2 (continued)

**Weapons Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)**

	<u>Sentenced to Prison</u>	<u>Logarithm of Sentence Length</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
<u>Case Processing Characteristics</u>					
EARLPLEA	-.11***	.00	-.01	.00	.01
LATEPLEA	-.08***	-.04	.09***	-.10***	-.00
TRIAL	.12***	.39***	-.11***	.12***	-.01
PLEAMISS	.16***	-.35***	-.02	.02	-.01
BARGAIN	-.01	-.10***	.02	-.06**	.07**
<u>Characteristics That Judges are Prohibited or Discouraged from Considering When Determining Sentence</u>					
AGE1	-.07**	.02	.16***	-.17***	-.02
MALE	.08***	.05*	-.01	-.02	.03
EMPLBEG	-.24***	-.15***	.07**	-.11***	.05*
EMPLMO	-.06**	-.04	.02	-.03	.02
DOPER	.22***	.13***	.03	.03	-.09***
CIRDC	.05*	.10***	-.13***	.12***	.03
CIRO1	-.00	-.03	.07***	-.06*	-.03
CIRO2	-.04	-.02	-.01	.02	-.01
CIRO3	-.04	-.00	.00	.01	-.02
CIRO4	-.05*	-.05*	-.02	.12***	-.15***
CIRO5	.03	.05*	-.07**	-.12***	.27***
CIRO6	-.04	-.03	.03	.04	-.10***
CIRO7	-.01	.00	.03	.01	-.06**
CIRO8	.02	.06*	.03	.02	-.06**
CIRO9	.01	-.05*	.06**	-.10***	.04
CIR10	.02	-.05*	.08***	-.06**	-.03
SOUTH	.02	.06*	-.12***	.06**	.09***

*** p < .001

** p < .01

* p < .05

These Differences Did Not Entirely Account for the More Severe Sentences Given to Blacks and Hispanics

To estimate how much of the differences in imprisonment rates could have resulted from legitimately considered differences among whites, blacks, and Hispanics, we developed logistic regression models for 1,905 offenders tentatively identified as not being subject to mandatory minimum prison sentences.² This model included aspects of the offense and the offender's criminal record that were relevant to the determination of the guideline ranges, legitimately considered when determining sentence, including the method by which the conviction was obtained (that is, by plea or trial), and the offender's race/ethnicity. When differences associated with these characteristics were accounted for, the odds of imprisonment for blacks and Hispanics still appeared to about twice as great as the odds for whites. This estimated difference persisted and did not diminish when a number of other characteristics were included in the model (Table A-7.3 in Appendix 2).

Examining the proportions imprisoned for different categories of offenders provides a more precise indication of where racial/ethnic differences were most prevalent. All those offenders who were tentatively identified as not being subject to mandatory minimum penalties were classified into nine groups, defined by their score on an index measuring the seriousness of the offender's prior criminal history.³ Figure 7.1 shows the numbers of blacks, whites, and Hispanics in each of these groups, and the proportion of blacks.

Offenders who had previously served a term of five years or more, or who had served more than one previous term of one year or more, were almost invariably reincarcerated. Figure 7.2 shows this pattern for offenders convicted of Title 18 offenses; the pattern for Title 26 offenses is shown in Figure 7.3. These heavily penalized groups of repeat offenders included almost twice as high a proportion of black offenders (more than 40%) as the least-penalized subgroup, those with no prior convictions (20%).

² Although being subject to mandatory minimum provisions of the law is not recorded in the FPSSIS data, we attempted to identify these persons using information about their charges and prior criminal histories.

³ The levels of the index are as follows:

- (1) Never convicted
- (2) convicted, but never incarcerated
- (3) incarcerated for not more than 5 years--release time unknown
- (4) incarcerated for not more than 5 years, released more than 5 years ago
- (5) incarcerated for not more than 5 years, released 1.01 to 5 years ago
- (6) incarcerated for not more than 5 years, released 1 to 12 months ago
- (7) incarcerated for not more than 5 years, released less than 1 month ago
- (8) exactly one incarceration over 5 years
- (9) more than one incarceration over 5 years

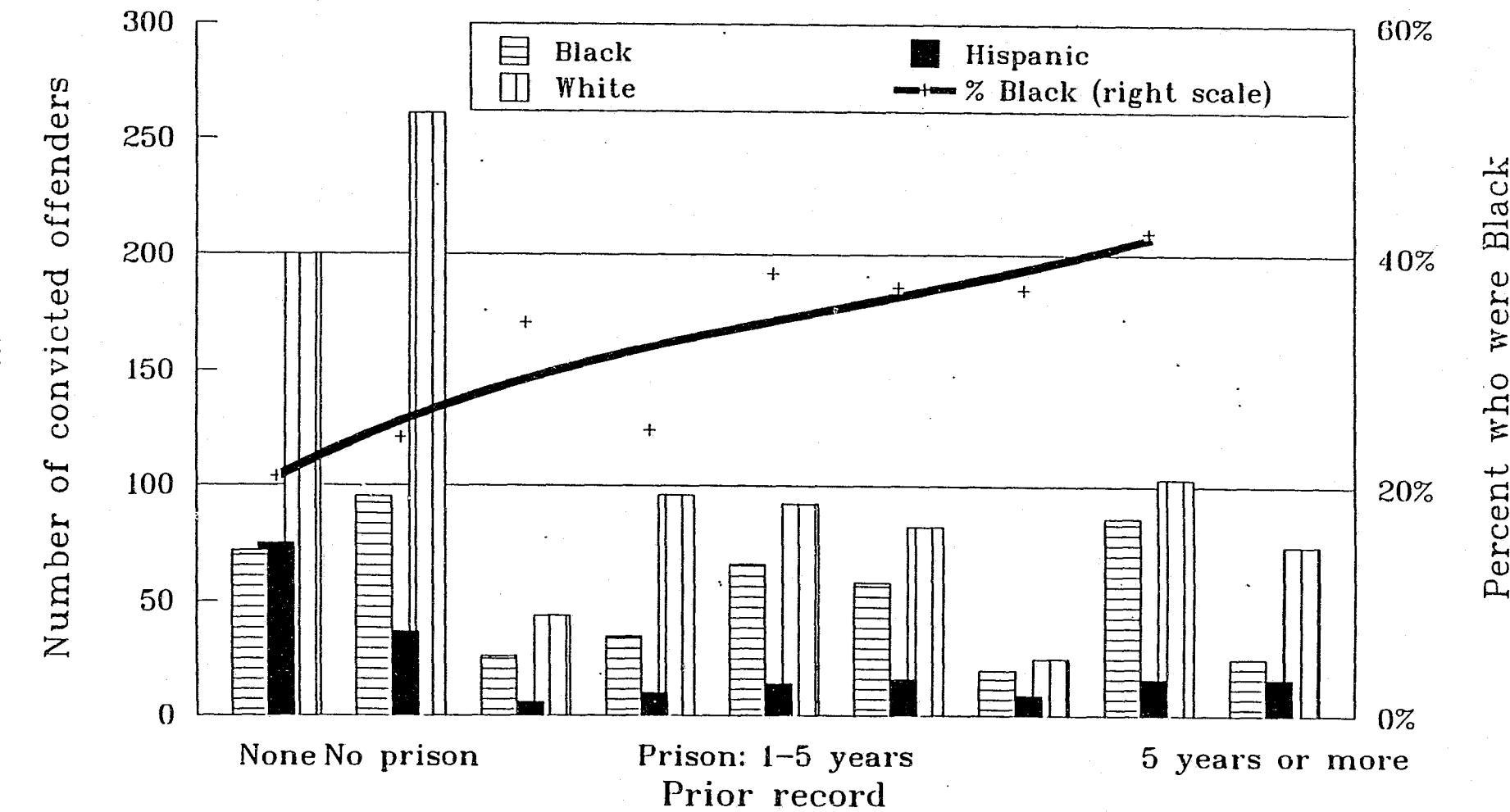
Figure 7.1

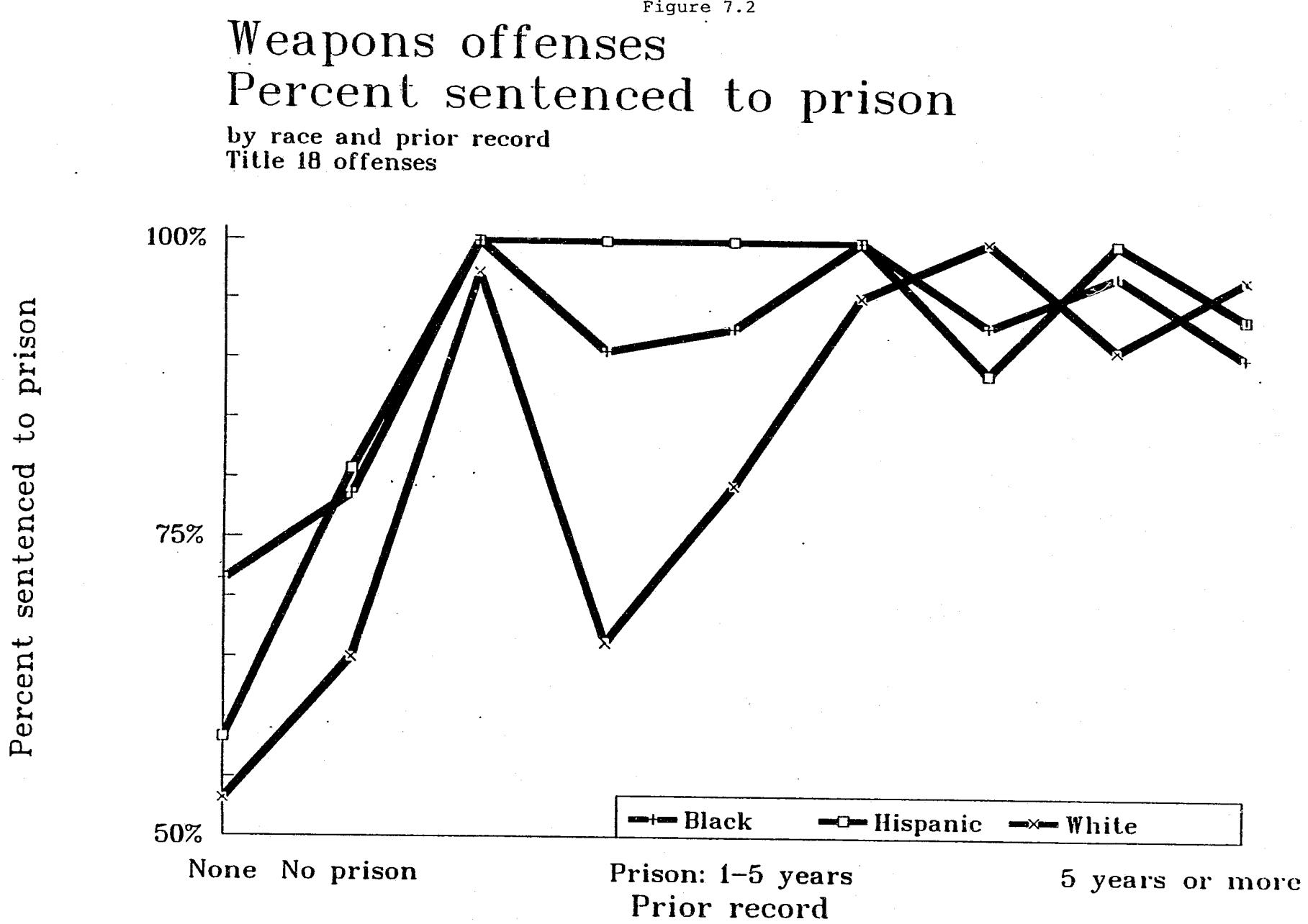
Weapons offenses

Number of convicted offenders

by race and prior record

Prior record categories:
 Never incarcerated:
 No convictions
 1 conviction
 2 convictions
 3 or more convictions
 Incarcerated:
 1 X (1-5 year terms)
 + 2 X (terms over 5 years)





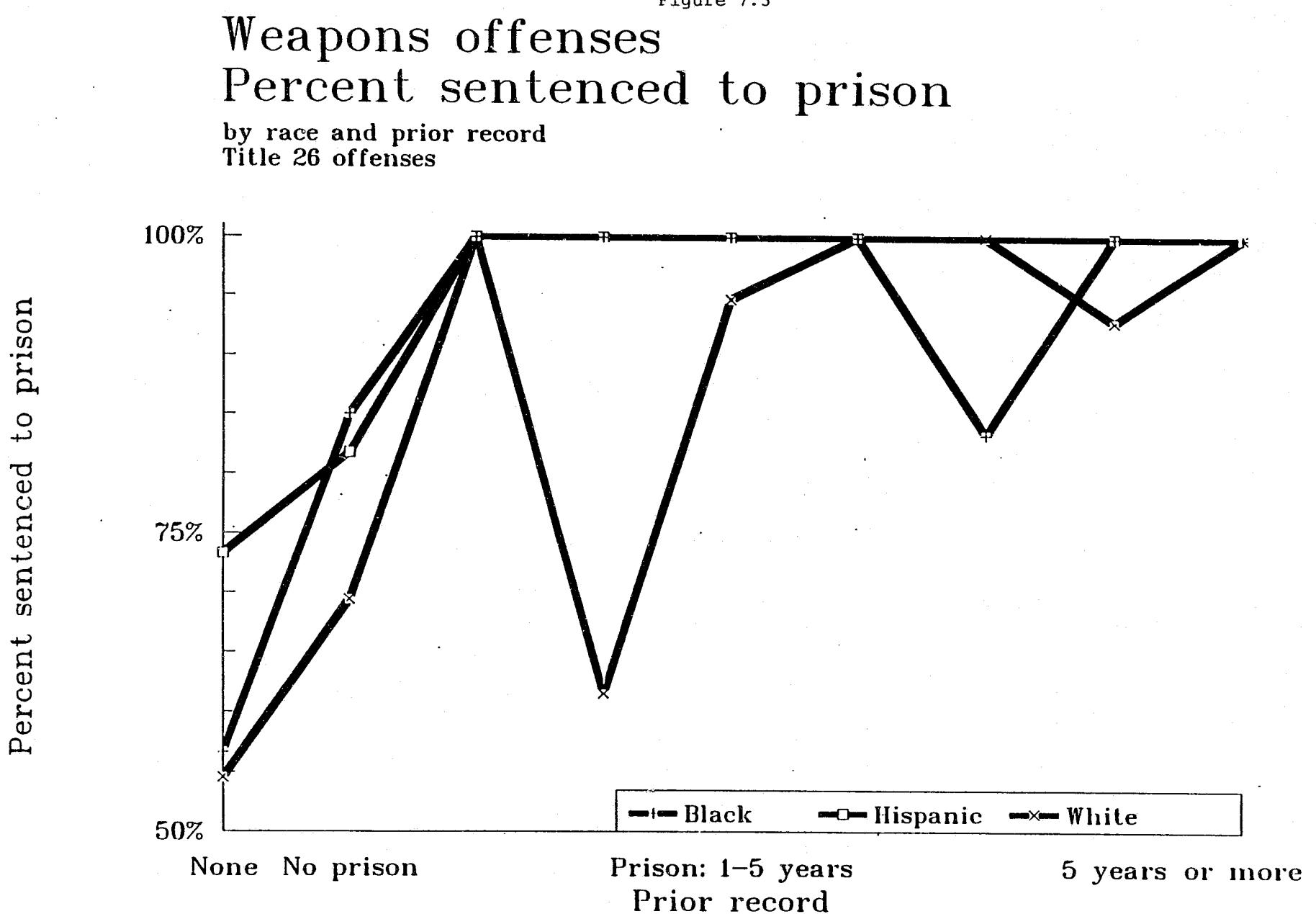


Table 7.3
Imprisonment/Not Imprisonment Sentences for Weapons: Logistic Regression Models
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>p(B=0)</u>	<u>exp(B)</u>
Offense characteristics		
GUN	.4956	1.2961
THREAT	.1839	1.9544
MULTIPLE	.0000	2.8714
ONGOING(1)	.0434	
Prior record		
CONF15Y	.0044	1.3560
THISOFF	.0024	1.8415
MONFREE	.0000	.9677
FREEDOM	.0000	
Plea or trial		
METHOD	.0000	
Other sources of variation		
RACE	.0000	
BLACK	.0001	2.0563
HISPANIC	.0034	1.8969
Constant	.0000	

Model	chi square	df	p
Excluding race	1323.60	1847	
Including race	1301.39	1845	
Difference	22.21	2	<.0001

(Figure 7.1). Among offenders with no convictions, no incarcerations, or only a single incarceration of less than five years, white offenders were systematically more likely to avoid prison than either black or Hispanic offenders ($p < .001$). Among offenders convicted under Title 26, this difference can be explained by the fact that black offenders were more likely to be convicted at trial (as opposed to pleading guilty) than white offenders. No such explanation could be found among the variables available for this study for offenders convicted under Title 18.

With respect to length of sentence, imprisonment sentences given to blacks were 54% longer than those given to whites, and Hispanics sentences 16% longer. To estimate the extent to which these differences resulted from other dissimilarities among whites, blacks, and Hispanics, two regression models were developed. The first included all measured characteristics that were both legitimately considered at time of sentencing and correlated with the length of the imprisonment term, plus whether the offender was white, black, or Hispanic (Table 7.4). This model estimated that only some of the observed differences in length of imprisonment terms actually imposed could be accounted for by these other differences among whites, blacks, and Hispanics. Taking into account these other differences, the model estimated that blacks received sentences about 19% longer than whites. It also estimated that the sentences given to Hispanics would have differed by about 8%, when these other differences were accounted for, but this difference was not statistically significant. These estimated differences persisted when still other measured differences in offenders were included—including the circuit in which the offender was prosecuted (Table A-7.4, in Appendix 2).

To locate the difference more precisely, we compared mean lengths of imprisonment sentences given to whites, blacks, and Hispanics, each classified into nine different groups according to their scores on the index describing the seriousness of their prior criminal records (Figures 7.4 and 7.5). Each of these groups were further divided according to whether they were convicted of Title 18 or Title 26 offenses. The 233 offenders subject to mandatory minimum sentencing provisions were excluded.

Comparison of average sentences given to whites, blacks and Hispanics in each of these smaller categories of offense/prior record combination showed no consistent relationship between average length of imprisonment and race/ethnicity. Longer sentences for blacks were found among those offenders who were convicted of Title 18 offenses and who had more than one prior incarceration sentence ($p < .05$). This difference could not be explained by other information available to us in the data files. It is possible that the difference reflects the consideration of other unmeasured differences among these black and white offenders. In other categories of offenders, blacks were not sentenced more severely than whites.

Table 7.4
Length of Prison Sentences for Weapons: OLS Regression Models
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
Offense characteristics			
MAND_MI2	1.3239	276%	.0000
NOWEAPON	-.1572	-15%	.0186
GUN	.2787	32%	.0006
USED	.3607	43%	.0008
FELONY	1.0110	175%	.0000
MULTIPLE	.2395	27%	.0000
ON_GO	.3028	35%	.0000
Role in the offense			
MORECULP	.3343	40%	.0000
LESSCULP	.0578	6%	.5644
SAMECULP	.1623	18%	.0215
Offender's prior record			
CONVADT	.0267	3%	.0055
CONF15Y	.1148	12%	.0000
CONF5YRN	.1551	17%	.0000
THISOFF	.0588	6%	.0115
MONFREE	-.0040		.0000
PANDP	.1204	13%	.0100
Plea or trial			
LATEPLEA	.0274	3%	.5556
TRIAL	.7794	118%	.0000
PLEAMISS	-.5048	-40%	.0001
Race/ethnicity			
BLACK	.1710	19%	.0002
HISPANIC	.0742	8%	.2625
Constant	1.4283	3.17%	.0000

Model	R ²	df	p
Excluding race	.5311	1493	
Including race	.5353	1491	
Difference	.0042	2	<.0012

Figure 7.4

Weapons offenses

Average sentence length

by race and prior record
Title 18 offenses

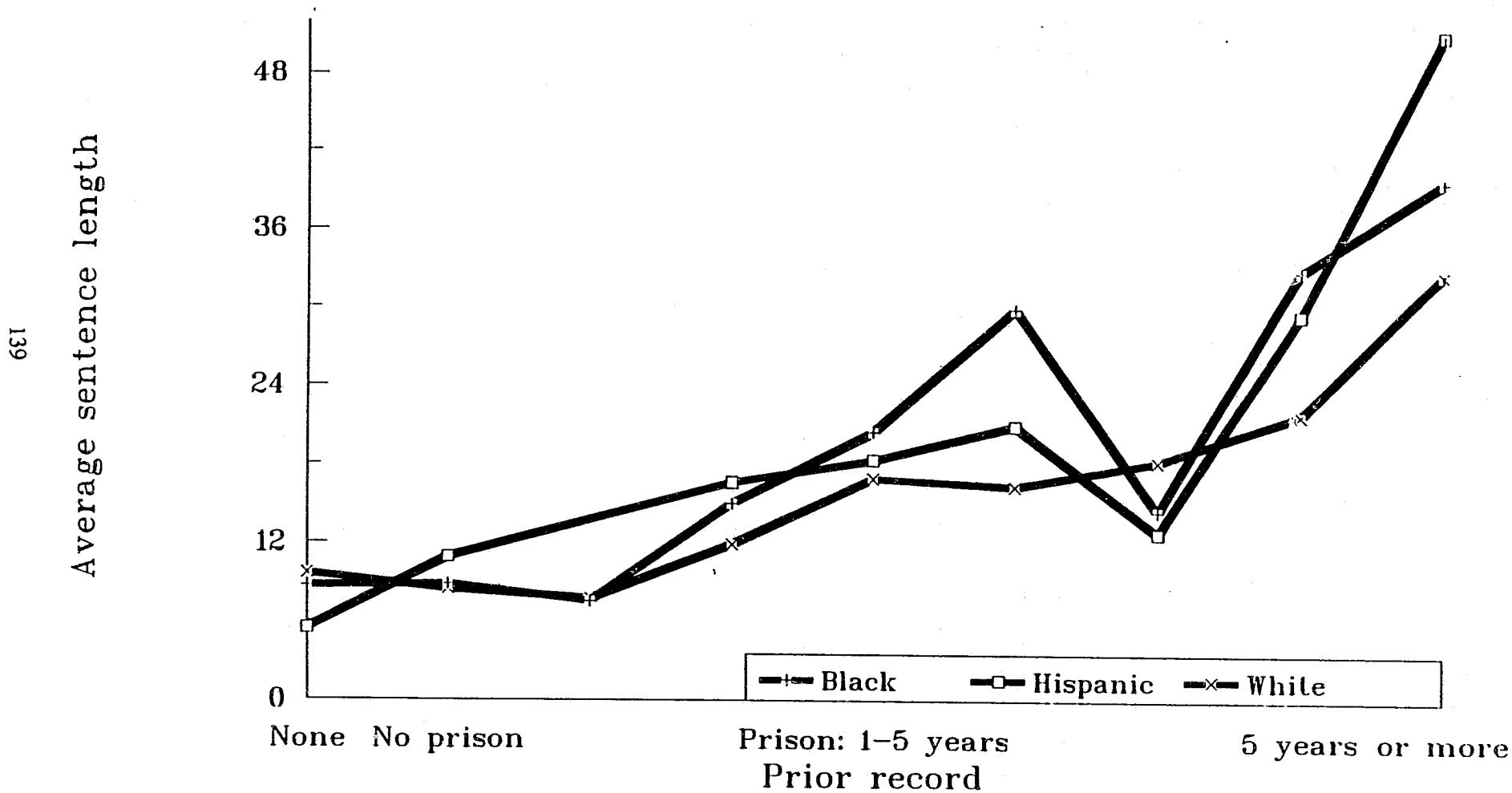
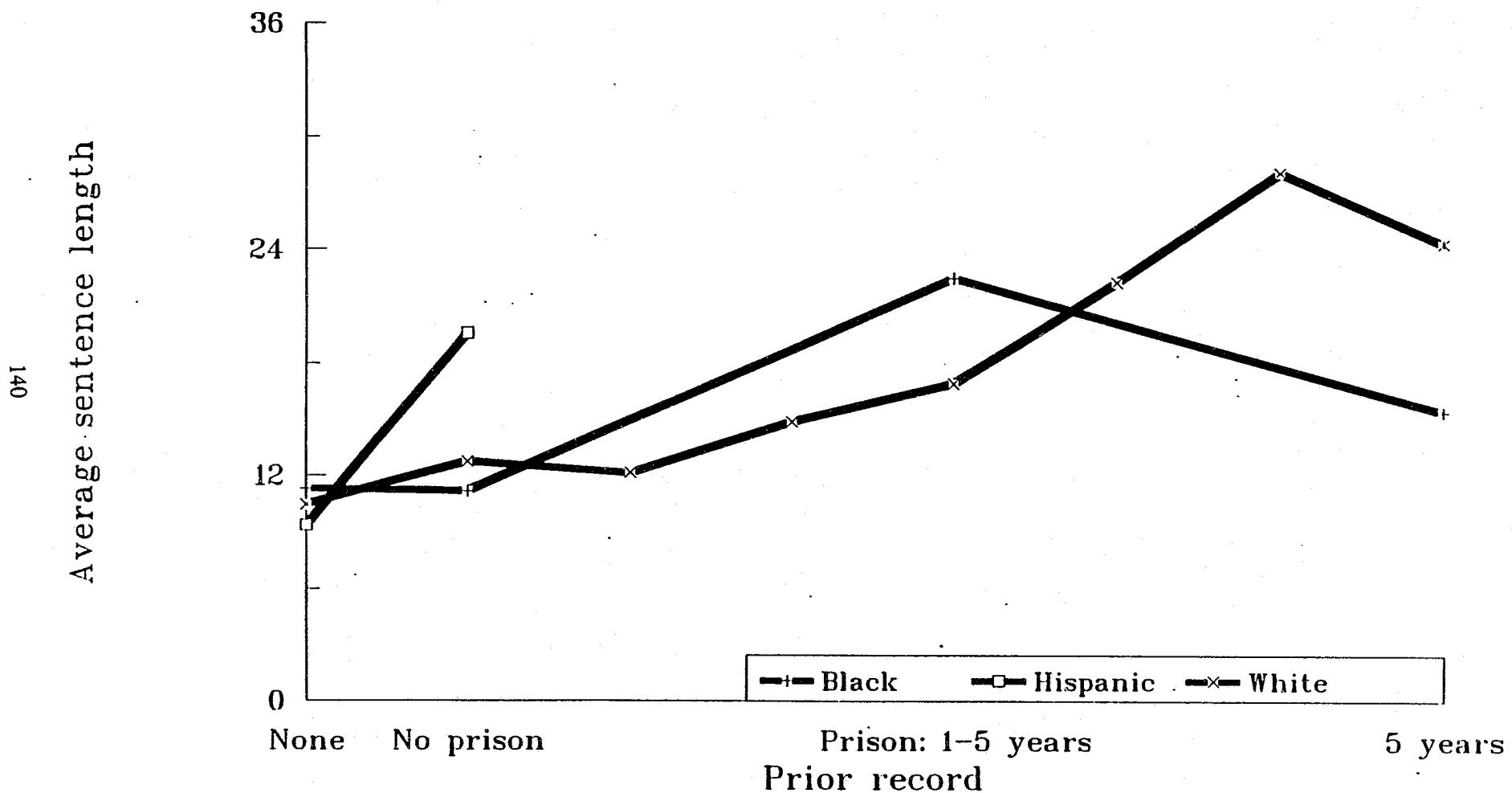


Figure 7.5

Weapons offenses

Average sentence length

by race and prior record
Title 26 offenses



Fraud

During the period from January 20, 1989, to June 30, 1990, 3,582 persons were sentenced under the guidelines in Federal district courts for fraud. Fifty-seven percent of those were given imprisonment terms of some duration, for an average term of 14 months. Forty-eight percent of all those convicted of fraud were white, 32% were black, and 20% were Hispanic (Table 8.1). There was some difference in the rates of incarceration for Hispanics: 53% of all Hispanics convicted of fraud were sentenced to prison, versus 59% of all blacks and 59% of all whites. Hispanics also received incarceration terms that were shorter, on average, than others. During this period, the average imprisonment sentence imposed on Hispanics was 7 months, compared to 15 months for blacks and 16 months for whites.

The most common crime charged at conviction was making false claims or statements: 27% of all Federal offenders convicted of fraud during this period in guideline cases were convicted of such crimes. Eighteen percent were convicted of credit card fraud, 14% of frauds involving the mails or interstate communications, 17% of frauds against banks or lending and credit institutions, and the remainder of cases involved frauds against bankruptcy laws, veterans laws, marketing agreements and commodity credits, SEC laws, food stamps, social security, passport fraud, and misrepresentation of nationality, among others (Table 8.1).

Differences Among Whites, Blacks, and Hispanics

Blacks, whites, and Hispanics differed in characteristics that were associated with being sent to prison and with being sentenced for longer periods of time (Table 8.2). Certain kinds of fraud were committed most often by white offenders: Savings and Loan fraud, SEC offenses, Commodity Credit Agreement fraud, unemployment fraud and those classified by the AOUSC as "other," which were primarily violations of other economic regulations (Figure 8.1). Black offenders were more often convicted of passport and nationality fraud, conspiracies to obtain Social Security and other benefits fraudulently, and false personation. Two-thirds of Hispanic offenders (66%) were convicted of frauds that were classified as "false claims and statements." More than half (59%) of these false claims were misdemeanor offenses. In all, 42% of Hispanic fraud offenders were convicted of misdemeanors, compared to 7% of black offenders and 8% of white offenders. Offenses for which both blacks and whites were prosecuted included a range of more and less serious offenses.

Table 8.1

**Descriptive Statistics for Fraud Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)**

Sentencing Outcomes

LOCKEDUP	(received prison sentence)	56.9 %
PRISMO4	(length of prison sentence imposed)	13.8 mos.

Characteristics of Offenses

MAJ4600	(major offense of conviction: lending and credit institutions)	3.5 %
MAJ4601	(major offense of conviction: bank fraud)	12.5 %
MAJ4700	(major offense of conviction: postal and interstate wire, radio, etc.)	14.1 %
MAJ4800	(major offense of conviction: Veterans and allotments)	0.1 %
MAJ4900	(major offense of conviction: bankruptcy)	0.9 %
MAJ4910	(major offense of conviction: marketing agreements and commodity credit)	0.2 %
MAJ4920	(major offense of conviction: Securities & Exchange Commission)	0.5 %
MAJ4940	(major offense of conviction: Railroad retirement and unemployment)	0.1 %
MAJ4941	(major offense of conviction: food stamps)	6.4 %
MAJ4950	(major offense of conviction: social security)	2.8 %
MAJ4960	(major offense of conviction: false personation)	0.9 %
MAJ4970	(major offense of conviction: nationality laws)	2.8 %
MAJ4980	(major offense of conviction: passport fraud)	4.5 %
MAJ4991	(major offense of conviction: false claims and statements)	27.2 %
MAJ4992	(major offense of conviction: conspiracy to defraud)	1.3 %
MAJ4993	(major offense of conviction: conspiracy (general))	0.2 %
MAJ4994	(major offense of conviction: false entries)	0.1 %
MAJ4995	(major offense of conviction: credit card fraud)	17.5 %
MAJ4996	(major offense of conviction: computer fraud)	0.5 %
MAJ4999	(major offense of conviction: other fraud)	3.9 %
DOL_AMT	(dollar amount involved in the offense)	\$1,207,708
FELONY	(principal offense of conviction was felony)	86.0 %
MULTIPLE	(offender convicted of multiple offenses)	12.1 %
ONGOING	(offense involves multiple or ongoing crimes)	65.3 %
ON_GO	(offense was part of an ongoing organized criminal enterprise)	23.8 %
SOLO	(acted alone)	49.0 %
LEADER	(offender played a leadership role in an organized crime)	0.3 %
WORKER	(offender played a role of a worker in an organized crime)	0.1 %
SUPERVIS	(offender played a role of a supervisor in an organized crime)	0.0 %
MORECULP	(role of offender was of greater culpability when acting with others)	12.6 %
LESSCULP	(role of offender was of lesser culpability when acting with others)	11.3 %
SAMECULP	(role of offender was of equal culpability when acting with others)	13.1 %
ROLEMISS	(information about offender's role was missing)	13.7 %

Characteristics of Offenders' Criminal History/Criminal Livelihood

CONVADT	(no. of prior adult convictions)	1.2 %
CONFLTYN	(no. of times confined 1 year or less)	0.3 %
CONF15Y	(no. of times confined 1 to 5 years)	0.2 %
CONF5YRN	(no. of times confined more than 5 years)	0.1 %
THISOFF	(no. of times previously convicted of this offense)	0.3 %
MONFREE	(no. of months free since last incarceration of more than 30 days)	67.7 mos.
FREE	(not under criminal justice supervision at time of offense)	78.4 %
PANDP	(on probation or parole at time of offense)	13.9 %
ON_BAIL	(offender on bail at time of offense)	1.9 %
ANY_REV	(any prior revocation of supervision order)	10.7 %

Table 8.1 (continued)

**Descriptive Statistics for Fraud Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)**

Case Processing Characteristics

EARLPLEA	(pledged guilty at initial hearing)	45.9 %
LATEPLEA	(changed plea to guilty in later hearing)	38.9 %
TRIAL	(convicted by trial)	3.8 %
PLEAMISS	(missing information about plea/trial)	11.4 %
BARGAIN	(charges reduced/dismissed)	54.2 %

Characteristics That Judges Are Prohibited or Discouraged from Considering When Determining Sentence

AGE1	(age at sentencing)	35.1 yrs.
MALE	(gender of offender)	76.9 %
EMPLBEG	(no. of months worked during year prior to arraignment)	7.6 mos.
EMPLMO	(monthly salary during year prior to arraignment)	\$1,069
DOPER	(drug problem identified)	12.9 %
CIRDC	(District of Columbia)	14.1 %
CIR01	(First Circuit)	2.5 %
CIR02	(Second Circuit)	10.0 %
CIR03	(Third Circuit)	5.0 %
CIR04	(Fourth Circuit)	8.7 %
CIR05	(Fifth Circuit)	19.1 %
CIR06	(Sixth Circuit)	7.5 %
CIR07	(Seventh Circuit)	5.3 %
CIR08	(Eighth Circuit)	5.5 %
CIR09	(Ninth Circuit)	18.1 %
CIR10	(Tenth Circuit)	4.2 %
SOUTH	(sentenced in the southern region of the United States)	45.1 %
BLACK	(non-Hispanic Black)	31.6 %
HISPANIC	(Hispanic origin)	20.4 %
WHITE	(non-Hispanic White)	47.9 %

na. = data not collected during this period

Table 8.2

Fraud Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)

	<u>Sentenced to Prison</u>	<u>Logarithm of Sentence Length</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
<u>Sentencing Outcomes</u>					
LOCKEDUP			.03	.01	-.05**
PRISMO_L			.19***	.06*	-.32***
<u>Characteristics of Offenses</u>					
MAJ4600	.02	.01	.10***	-.03*	-.09***
MAJ4601	.11***	.14***	.09***	.04*	-.16***
MAJ4700	.05**	.17***	.20***	-.05**	-.19***
MAJ4800	-.04*		-.02	.04*	-.02
MAJ4900	.05**	.13***	.04*	.00	-.05**
MAJ4910	.01	.00	.04*	-.03	-.02
MAJ4920	.03	.06**	.05**	-.02	-.03*
MAJ4940	-.03		.03	-.02	-.01
MAJ4941	-.15***	-.09***	-.04**	.12***	-.09***
MAJ4950	.01	-.05*	-.00	.06**	-.06***
MAJ4960	.03	.01	-.00	.03	-.03*
MAJ4970	.05**	-.13***	-.12***	-.08***	.24***
MAJ4980	.01	-.15***	-.05**	.02	.04*
MAJ4991	-.14***	-.26***	-.21***	-.16***	.45***
MAJ4992	.02	.02	.00	.00	-.01
MAJ4993	-.01	-.01	.01	-.01	-.01
MAJ4994	-.03	.02	.01	.01	-.02
MAJ4995	.10***	.12***	-.02	.16***	-.15***
MAJ4996	-.03*	-.06**	.02	.01	-.03
MAJ4999	-.07***	.03	.08***	-.04*	-.05**
L_DOLLAR	.33***	.40***	.22***	-.18***	-.09***
FELONY	.24***	.27***	.19***	.15***	-.40***
MULTIPLE	.20***	.21***	.02	.02	-.05**
ONGOING	.13***	.37***	.16***	.07***	-.30***
ON_GO	.21***	.39***	.15***	.00	-.19***
SOLO	-.00	-.13***	-.05**	-.04*	.12***
LEADER	.04*	.08***	.00	.01	-.01
WORKER	-.00	-.02	.00	-.02	.02
MORECULP	.10***	.25***	.05**	.05**	-.11***
LESSCULP	-.17***	-.04	.01	.04*	-.06***
SAMECULP	.03	.02	.05**	.01	-.07***
ROLEMISS	.07***	-.24***	-.12***	-.06***	.22***

Table 8.2 (continued)

Fraud Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)

Sentenced to Prison	Logarithm of Sentence Length	White	Black	Hispanic
<u>Characteristics of Offenders' Criminal History/Criminal Livelihood</u>				
CONVADT	.28***	.31***	.07***	.06***
CONFLYTN	.19***	.19***	.01	.04*
CONF15Y	.18***	.27***	.07***	.01
CONF5YRN	.10***	.15***	.04*	.01
THISOFF	.21***	.32***	.03	.07***
MONFREE	-.29***	-.30***	.02	-.06***
FREE	-.31***	-.27***	-.01	-.06***
PANDP	.25***	.22***	-.01	.05**
ON_BAIL	.05**	.06**	-.01	.04**
ANY_REV	.22***	.26***	.03	.04*
<u>Case Processing Characteristics</u>				
EARLPLEA	-.16***	.05*	-.04*	-.01
LATEPLEA	-.05**	.06**	.04*	-.01
TRIAL	.10***	.16***	.04*	-.01
PLEAMISS	.27***	-.23***	-.03	.04*
BARGAIN	.02	.03	-.02	.02
<u>Characteristics That Judges are Prohibited or Discouraged from Considering When Determining Sentence</u>				
AGE1	.01	.19***	.25***	-.10***
MALE	.18***	.06*	.07***	-.17***
EMPLBEG	-.14***	-.14***	.10***	-.05**
EMPLMO	.01	.04	.14***	-.07***
DOPER	.13***	.07**	-.01	.10***
CIRDC	-.04*	.05*	-.04*	.11***
CIR01	.01	-.03	.05**	-.04*
CIR02	-.03	.01	.07***	-.02
CIR03	-.02	-.00	.02	.03
CIR04	.00	.04	.04*	.08***
CIR05	-.07***	-.11***	-.25***	-.10***
CIR06	.03	.05*	.04**	.08***
CIR07	.02	.01	.07***	.00
CIR08	.09***	-.01	.04*	.04*
CIR09	.04*	-.00	.05**	-.12***
CIR10	.02	.03	.06***	-.01
SOUTH	-.06***	-.02	-.19***	.05**
				.17***

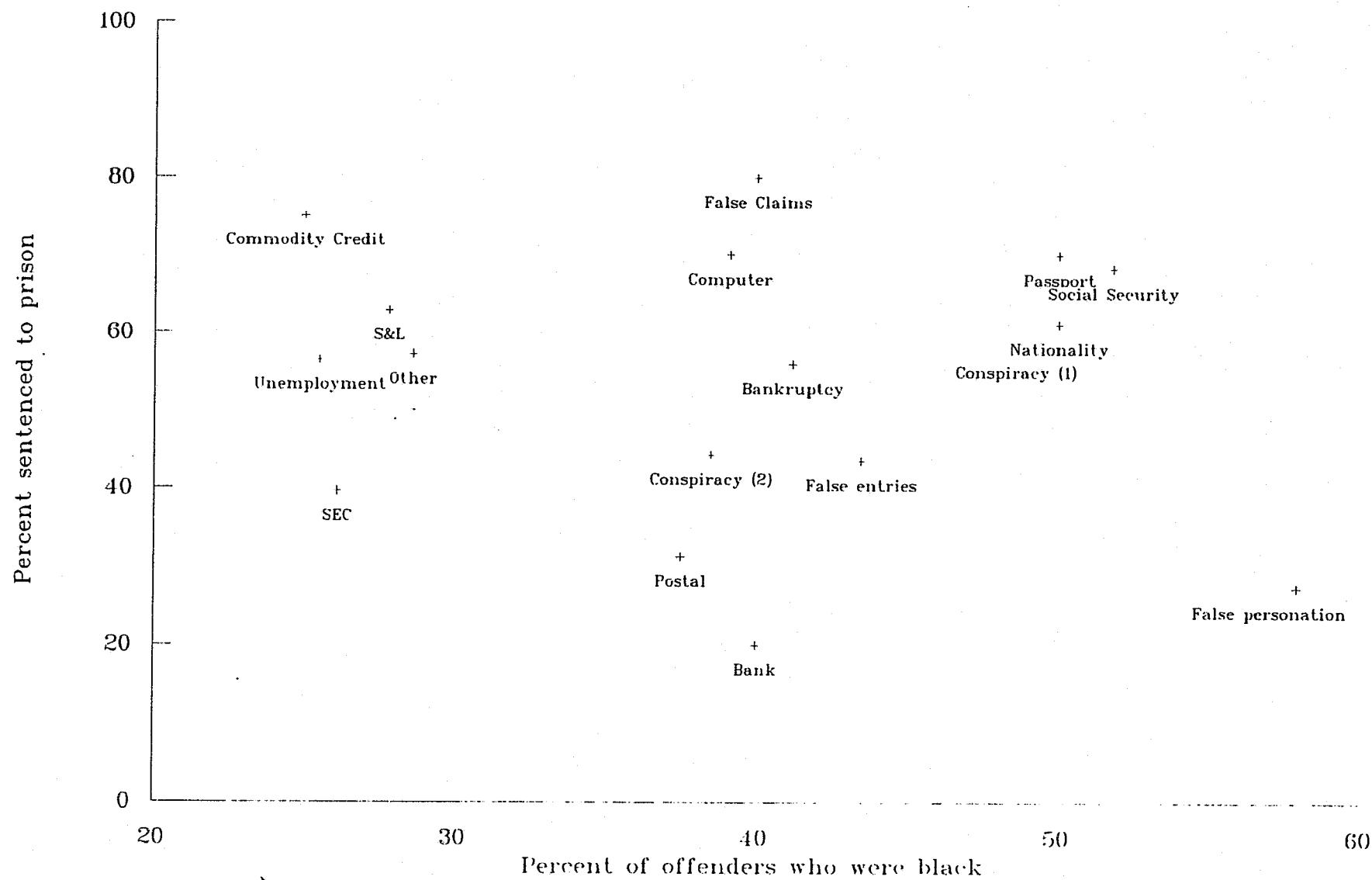
*** p < .001

** p < .01

* p < .05

Figure 8.1

Fraud
Detailed offense categories
by racial composition and
probability of prison sentence



Conspiracies:

- (1) e.g. misuse of Federal assistance
(2) general conspiracies

The value of frauds varied by the race/ethnicity of the offender (Figure 8.2). Offenses with values under \$10,000 included about twice as many black offenders (approximately 40%) as those with values around \$100,000 (in which about 20% of offenders were black).

Whites were significantly more likely to have committed the fraud as part of an organized criminal enterprise, or as part of an ongoing pattern of crimes that were somewhat less sophisticated than those characterizing organized criminal enterprises. They were also less likely than blacks to have been under criminal justice supervision at the time of committing the crime, and were older, on average, than blacks or Hispanics. They were less likely (and Hispanics much less likely) than blacks to have been identified as substance abusers, which was correlated with a higher likelihood of incarceration—even though the guidelines do not sanction more severe punishment for substance abusers.

These Differences Do Not Explain the Dissimilar Imprisonment Rates of Hispanics

As mentioned above, Hispanic offenders were slightly less likely than others to be sentenced to prison (53% compared to 59% each for black and white offenders). To estimate the extent to which these sentencing differences resulted from other relevant differences among whites, blacks, and Hispanics, a logistic regression model was developed. This model included only variables that were found to be predictive of being imprisoned and were also recognized by the Sentencing Commission as relevant to sentencing decisions, plus variables indicating whether the conviction was obtained by plea or trial, and whether the offender was white, black, or Hispanic (Table 8.3.)

After controlling for the effects of these characteristics on being sentenced to imprisonment, this model estimated that the odds of imprisonment were 143% greater for Hispanics than the odds for whites. This difference resulted primarily from a higher proportion of Hispanics being convicted of making "false claims and statements," which included two thirds of Hispanic offenders convicted of fraud. Two crimes form the bulk of the category of "false claims and statements:" 18 U.S.C. 1001 (which generally prohibits making false statements to the government) and 18 U.S.C. 1028 (which specifically concerns false identification documents). Although both of these offenses carry maximum statutory penalties of five years imprisonment, 71% of felony convictions involving false ID documents resulted in prison sentences, compared to 52% of felony convictions for violation of 18 U.S.C. 1001. Even among offenders having the same guideline range, judges were more likely to impose prison sentences for violations of section 1028 than for violations of section 1001. When this offense description was entered into the model at this level of detail, the offender's race or ethnicity was no longer a significant predictor of sentence type.

Figure 8.2

Fraud
Number of convicted offenders
by race and value of fraud

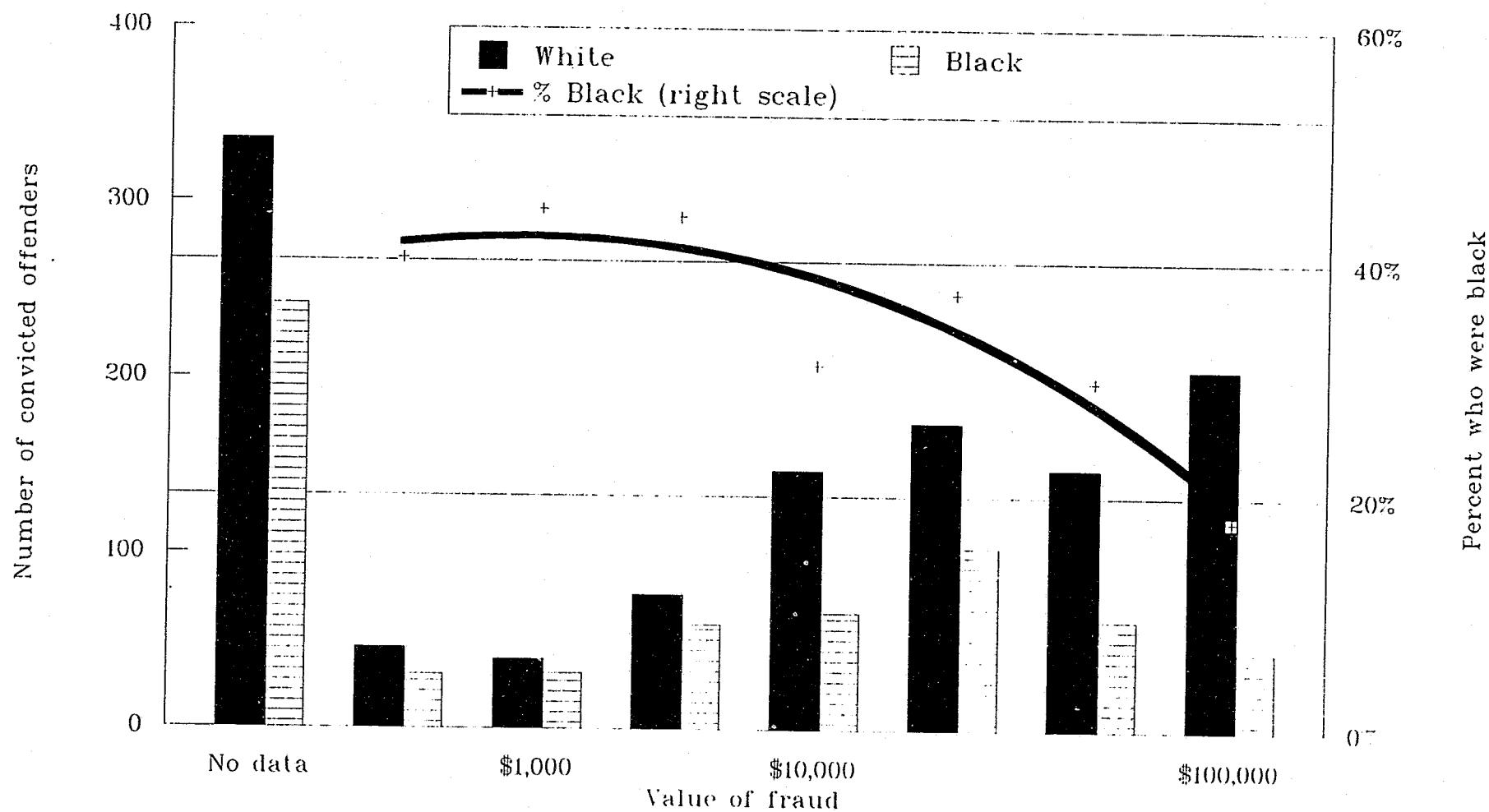


Table 8.3
Imprisonment/Not Imprisonment Sentences for Fraud: Logistic Regression Models
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>p(B=0)</u>	<u>exp(B)</u>
Offense characteristics		
OFFTYPE	.0001	
L_DOLLAR	.0000	1.3784
MULTIPLE	.0000	3.1232
ON_GO	.0000	2.2374
ROLE	.0000	
Prior record		
CONVADT	.0000	1.2315
THISOFF	.0009	1.5144
MONFREE	.0000	.9794
FREEDOM	.0000	
Plea or trial		
METHOD	.0000	
Other sources of variation		
RACE	.0000	
BLACK	.0964	1.1982
HISPANIC	.0000	2.4324
Constant	.0061	

<u>Model</u>	<u>chi square</u>	<u>df</u>	<u>p</u>
Excluding race	2911.35	2899	
Including race	2877.08	2897	
Difference	34.27	2	<.0001

Explaining the Shorter Sentences Given to Hispanics

Although only a small difference in average length of sentence existed between whites and blacks convicted of fraud, Hispanics received imprisonment sentences that averaged less than half as long as those given to whites and blacks. To estimate the joint effect of various offender and offense characteristics on the length of prison sentences imposed, and to estimate the extent to which these differences accounted for the shorter sentences given to Hispanics, ordinary least squares regression models were constructed (Table 8.4).

Although the average sentence imposed on Hispanic offenders was less than half of that imposed on either black or white offenders, this difference was explained entirely by differences in offense and offender characteristics. In the most parsimonious formulation of the model (shown in Table 8.4), adjusted sentences imposed on black and Hispanic offenders differed by a fraction of a percent, and sentences imposed on minority offenders averaged only 2 or 3 days longer than those imposed on whites.

Table 8.4
Length of Prison Sentences for Fraud: OLS Regression Models
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
Offense characteristics			
MAJ4600	-.1812	-17%	.0607
MAJ4900	.3483	42%	.0023
MAJ4941	-.3849	-32%	.0000
MAJ4980	-.5328	-41%	.0000
MAJ4700	.0286	3%	.6304
MAJ4995	-.0964	-9%	.0808
MAJ4991	-.2405	-21%	.0005
L_DOLLAR	.1287	14%	.0000
DOL_DUM	-.2985	-26%	.0000
FELONY	.5180	68%	.0000
MULTIPLE	.2288	26%	.0000
ON_GO	.2550	29%	.0000
Role in the offense			
MORECULP	.2153	24%	.0000
LESSCULP	-.2304	-21%	.0007
SAMECULP	-.0040	0%	.9368
Offender's prior record			
CONVADT	.0568	6%	.0000
THISOFF	.0583	6%	.0001
MONFREE	-.0063	-1%	.0000
PANDP	.1630	18%	.0007
ON_BAIL	.2653	30%	.0254
Case processing			
LATEPLEA	.0368	4%	.3398
TRIAL	.3945	48%	.0000
PLEAMISS	-.4276	-35%	.0000
Race/ethnicity			
BLACK	.0333	3%	.4275
HISPANIC	.0362	4%	.5731
Constant	.6491	1.91%	.0000

Model	R ²	df	p
Excluding race	.4949	1623	
Including race	.4952	1621	
Difference	.0003	2	.5983

Larceny

Slightly more than half (53%) of all persons convicted of Federal larceny offenses in guideline cases were white, 41% were black, and only 6% were Hispanic. For all larceny offenders taken as a group, the imprisonment rate was 43%, and the average prison sentence was 18 months (Table 9.1). There were some racial/ethnic differences in sentencing. Whites were the least likely to be imprisoned upon conviction (42%), Hispanics the most likely (52%), while 47% of all blacks went to prison. Of those who received imprisonment terms, Hispanics received the shortest average sentences (14 months), blacks received an average of 16 months, and whites the longest sentences, at 20 months. Differences in the types of offenses committed and the offender's prior criminal histories accounted for all of these white/black/Hispanic differences save one: the higher imprisonment rate for blacks.

The most commonly charged larcenies were thefts of U.S. property (40%), followed by postal thefts (26%), thefts of interstate commerce (11%), bank larcenies (8%), with 16% charged with miscellaneous other felony or misdemeanor larcenies. (Fifty-eight percent of the offenders were convicted of felony charges.) Half of all larcenies involved thefts of money or property valued at \$1,130 or less. Because there was a small proportion of very large thefts, however, the average dollar value was much higher: \$117,732.

Offenses classified here as larcenies rarely involved weapons, or injuries to victims, in part because if weapons were involved, the cases would be classified as a weapons offense or a robbery. Only 9% of the offenders were identified as being part of an organized criminal enterprise, although a larger proportion (39%) were considered to have committed the instant offense as part of an ongoing series of crimes, but not of such sophistication as to warrant the "organized crime" label. In addition, 30% of larceny offenders were women.

Those characteristics correlated with either receiving an imprisonment sentence or the length of the prison sentence are shown in Table 9.2. Both the sentence of imprisonment and the length of the sentence correlated with the type of larceny committed, whether the larceny was a felony, the amount stolen, the offender's prior criminal record, whether the crime was committed as part of an organized criminal enterprise, the offender's role and relative culpability and his or her criminal justice status at the time of committing the crime. Moreover, sentencing outcomes were associated with going to trial rather than pleading guilty, with the circuit where the case was prosecuted, and several aspects of the offenders background or behavior not considered legitimate in sentencing: gender, reported drug problems, and previous work history.

Table 9.1

**Descriptive Statistics for Larceny Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)**

Sentencing Outcomes

LOCKEDUP	(received prison sentence)	42.8 %
PRISMO4	(length of prison sentence imposed)	17.6 mos.

Characteristics of Offenses

MAJ3100	(major offense of conviction: bank larceny)	8.0 %
MAJ3200	(major offense of conviction: postal larceny)	25.8 %
MAJ3300	(major offense of conviction: interstate commerce)	10.9 %
MAJ3400	(major offense of conviction: United States property)	39.7 %
MAJ3700	(major offense of conviction: other-felony)	4.1 %
MAJ3800	(major offense of conviction: other-misdemeanor)	11.5 %
DOL_AMT	(dollar amount involved in the offense)	\$117,732
FELONY	(principal offense of conviction was felony)	58.3 %
MULTIPLE	(offender convicted of multiple offenses)	7.4 %
ONGOING	(offense involves multiple or ongoing crimes)	39.1 %
ON_GO	(offense was part of an ongoing organized criminal enterprise)	9.4 %
SOLO	(acted alone)	53.2 %
LEADER	(offender played a leadership role in an organized crime)	0.2 %
WORKER	(offender played a role of a worker in an organized crime)	0.1 %
SUPERVIS	(offender played a role of a supervisor in an organized crime)	0.1 %
MORECULP	(role of offender was of greater culpability when acting with others)	9.8 %
LESSCULP	(role of offender was of lesser culpability when acting with others)	9.6 %
SAMECULP	(role of offender was of equal culpability when acting with others)	14.6 %
ROLEMISS	(information about offender's role was missing)	12.4 %

Characteristics of Offenders' Criminal History/Criminal Livelihood

CONVADT	(no. of prior adult convictions)	1.5
CONFLTYN	(no. of times confined 1 year or less)	0.3
CONF15Y	(no. of times confined 1 to 5 years)	0.3
CONF5YRN	(no. of times confined more than 5 years)	0.1
THISOFF	(no. of times previously convicted of this offense)	0.5
MONFREE	(no. of months free since last incarceration of more than 30 days)	65.5 mos.
FREE	(not under criminal justice supervision at time of offense)	78.1 %
PANDP	(on probation or parole at time of offense)	14.8 %
ON_BAIL	(offender on bail at time of offense)	2.1 %
ANY_REV	(any prior revocation of supervision order)	15.7 %

Case Processing Characteristics

EARLPLEA	(pledged guilty at initial hearing)	56.3 %
LATEPLEA	(changed plea to guilty in later hearing)	27.4 %
TRIAL	(convicted by trial)	5.5 %
PLEAMISS	(missing information about plea/trial)	10.7 %
BARGAIN	(charges reduced/dismissed)	40.6 %

Table 9.1 (continued)
Descriptive Statistics for Larceny Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)

Characteristics That Judges Are Prohibited or Discouraged from Considering When Determining Sentence

AGE1	(age at sentencing)	32.8 yrs.
MALE	(gender of offender)	69.5 %
EMPLBEG	(no. of months worked during year prior to arraignment)	7.3 mos.
EMPLMO	(monthly salary during year prior to arraignment)	\$728
DOPER	(drug problem identified)	26.2 %
CIRDC	(District of Columbia)	16.2 %
CIR01	(First Circuit)	1.0 %
CIR02	(Second Circuit)	5.8 %
CIR03	(Third Circuit)	5.0 %
CIR04	(Fourth Circuit)	10.7 %
CIR05	(Fifth Circuit)	14.2 %
CIR06	(Sixth Circuit)	16.9 %
CIR07	(Seventh Circuit)	6.3 %
CIR08	(Eighth Circuit)	4.1 %
CIR09	(Ninth Circuit)	13.2 %
CIR10	(Tenth Circuit)	6.5 %
SOUTH	(sentenced in the southern region of the United States)	54.1 %
BLACK	(non-Hispanic Black)	40.6 %
HISPANIC	(Hispanic origin)	6.3 %
WHITE	(non-Hispanic White)	53.0 %

na. = data not collected during this period

Table 9.2

Larceny Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)

	<u>Sentenced to Prison</u>	<u>Logarithm of Sentence Length</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
<u>Sentencing Outcomes</u>					
LOCKEDUP			-.06**	.05*	.04
PRISMO_L			.13***	-.15***	.03
<u>Characteristics of Offenses</u>					
MAJ3100	.13***	.24***	.02	-.03	.01
MAJ3200	.20***	-.04	-.09***	.06**	.05*
MAJ3300	.20***	.20***	.03	-.06**	.06**
MAJ3400	-.31***	-.21***	.07**	-.04	-.07**
MAJ3700	.08***	.04	-.01	-.00	.03
MAJ3800	-.16***	-.25***	-.03	.05*	-.06*
L_DOLLAR	.41***	.42***	.02	-.06**	.09***
FELONY	.50***	.41***	-.04	-.02	.10***
MULTIPLE	.19***	.20***	.02	-.01	-.01
ONGOING	.21***	.14***	-.01	-.01	.03
ON_GO	.17***	.24***	.03	-.02	-.01
SOLO	-.29***	-.16***	-.06**	.09***	-.05*
LEADER	.05**	.07*	.05*	-.04	-.01
WORKER	.03	.01	-.00	.01	-.01
SUPERVIS	.03	.05	-.02	.03	-.01
MORECULP	.18***	.22***	-.01	-.02	.06**
LESSCULP	.01	-.02	.01	-.01	-.01
SAMECULP	.12***	.10**	.09***	-.09***	.00
ROLEMISS	.16***	-.24***	-.04	.02	.03
<u>Characteristics of Offenders' Criminal History/Criminal Livelihood</u>					
CONVADT	.48***	.27***	-.01	.02	-.02
CONFLTYN	.28***	.17***	-.02	.00	.03
CONF15Y	.32***	.31***	-.00	.01	-.01
CONF5YRN	.19***	.28***	.03	-.02	-.02
THISOFF	.29***	.15***	-.02	.02	.00
MONFREE	-.43***	-.30***	.02	-.01	-.03
FREE	-.40***	-.22***	-.01	.00	.02
PANDP	.33***	.22***	.01	-.00	-.03
ON_BAIL	.11***	-.07*	.01	-.00	-.01
ANY_REV	.38***	.29***	.01	-.00	-.00

Table 9.2 (continued)

Larceny Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)

	Sentenced to Prison	Logarithm of Sentence Length	White	Black	Hispanic
Case Processing Characteristics					
EARLPLEA	-.32***	.10**	.05*	-.05*	-.01
LATEPLEA	.09***	.11**	.00	.01	-.02
TRIAL	.03	.10**	-.02	.03	-.02
PLEAMISS	.37***	-.29***	-.07**	.04	.06**
BARGAIN	.17***	.08*	.01	-.05*	.09***
Characteristics That Judges are Prohibited or Discouraged from Considering When Determining Sentence					
AGE1	.03	.16***	.17***	-.15***	-.04*
MALE	.27***	.20***	.01	-.04	.07***
EMPLBEG	-.23***	-.12***	.05*	-.04	-.02
EMPLMO	-.09***	-.01	.11***	-.12***	.02
DOPER	.34***	.09**	-.11***	.10***	.01
CIRDC	-.05*	.03	-.05*	.07***	-.05*
CIR01	.05*	-.02	.01	-.04	.07**
CIR02	.02	.03	-.09***	.07**	.04
CIR03	.06**	.02	-.02	-.01	.06**
CIR04	.02	-.15***	-.09***	.13***	-.07***
CIR05	.00	.09**	-.02	-.03	.11***
CIR06	-.14***	.01	.08***	-.03	-.10***
CIR07	.03	-.09**	-.11***	.13***	-.05*
CIR08	.08***	.06	.07***	-.05*	-.05*
CIR09	.05*	-.04	.11***	-.15***	.07**
CIR10	.01	.07*	.10***	-.13***	.05*
SOUTH	-.14***	.00	-.02	.06**	-.07**

*** p < .001

** p < .01

* p < .05

Differences Among White, Black, and Hispanic Larcenists

Whites, blacks, and Hispanics differed in certain characteristics that were associated with receiving different sentences (Table 9.2). For example, the median value of larcenies by Hispanic offenders was over \$3,000 compared to approximately \$1,000 for black or white offenders. Consequently, Hispanics were more likely to be convicted of felonies. Hispanics were also more frequently identified as the more culpable party in crimes involving other offenders. A higher proportion of the Hispanic offenders were men (which was associated with getting a more severe sentence).

These Differences Account For the Dissimilar Imprisonment Rates of Whites, and Hispanics, But Not Blacks

It appears that the legitimately considered differences in offenses, offenders' prior criminal record, and other factors account for the higher imprisonment rates of the Hispanics, but not for all of the higher imprisonment rates for blacks. To estimate the extent to which these various legitimately considered differences account for the observed differences among whites, blacks, and Hispanics in imprisonment rates, a logistic regression model was constructed that included those differences that were predictive of getting a prison sentence and were considered legally relevant to sentencing (Table 9.3). In addition, variables were included that indicated if the offender was black or Hispanic. After accounting for these characteristics, no statistically significant difference was found in the odds of imprisonment for Hispanics compared with the odds for whites. The higher rate of incarceration for Hispanics is explained fully by the larger proportion of Hispanics charged with felonies.

Legitimately considered differences do not account for the higher imprisonment rate for blacks compared to whites, however. Indeed, the model (Table 9.3) estimates that when the difference between black and white offenders are included in the equation, the odds of imprisonment were about 60% greater for blacks than for similarly situated whites. (The 95% confidence interval is 20-110%.) This estimate was not materially changed by the inclusion of other variables measuring a larger number of offense, offender, and case processing variables, nor by the substitution of a south/other dichotomy for the more detailed judicial circuit descriptors (Table A-9.3 in Appendix 2).

An indication of the types of offenses for which blacks have greater odds of imprisonment is seen in a comparison of imprisonment rates for whites and blacks convicted of differently valued larcenies, who were similar to one another on a number of different dimensions. To make this comparison, we excluded the few offenders who were described as having committed any violent act, and those who were reported as having committed the crime as a part of an organized criminal enterprise. The analysis was limited to convictions for bank or postal larceny, theft from interstate commerce, or theft of U.S. government property. We then divided offenders into thirteen different categories according

Table 9.3

Imprisonment/Not Imprisonment Sentences for Larceny: Logistic Regression Models
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>p(B=0)</u>	<u>exp(B)</u>
Offense characteristics		
OFFTYPE	.0001	
L_DOLLAR	.0000	1.2027
MULTIPLE	.0000	3.0684
FELONY	.0000	5.0010
ON_GO	.0001	2.3515
ROLE	.0001	
Prior record		
CONVADT	.0000	1.3681
MONFREE	.0009	.9862
FREEDOM	.0000	
ANY_REV	.0004	2.5440
Plea or trial		
METHOD	.0000	
Other sources of variation		
RACE	.0045	
BLACK	.0012	1.6088
HISPANIC	.7953	1.0768
Constant	.0002	

Model	chi square	df	p
Excluding race	1434.51	1828	
Including race	1423.73	1826	
Difference	10.77	2	.0046

to the amount of money stolen, or the dollar value of property stolen—a strong determinant of receiving a sentence of imprisonment.¹ Figure 9.1 shows the numbers of blacks and whites convicted in each of these categories. (These numbers are represented by the vertical bars, and are read against the scale along the vertical axis on the left.) The proportion of blacks compared to whites is also represented by the Xs, and the line that connects them is smoothed to show the overall trend throughout the range of dollar values. This shows that whites predominated at the upper and lower ends of the scale. In the intermediate ranges—approximately \$100 to \$1,000)—blacks matched or outnumbered whites. At values in excess of \$100,000, fewer than one-third of the offenders were black.

To make these comparisons between blacks and whites even narrower, we divided the groups further into those offenders who had no prior convictions and those who did have prior convictions on their records. The percent of white and black first offenders sentenced to prison within each of the dollar-value ranges is shown in Figure 9.2. Among these first offenders, there was no consistent difference between white and black offenders. However, among offenders with at least one prior conviction, black offenders who stole small to moderate amounts of money or property (valued between approximately \$10 to \$1000) were more likely to be given imprisonment sentences than whites who committed the same crimes ($p < .01$, Figure 9.3). No reason could be found to explain this apparent disparity.

Racial/Ethnic Differences in the Length of Imprisonment Sentences

As mentioned above, the average imprisonment sentences varied somewhat among whites, blacks, and Hispanics: 20 months, 16 months, and 14 months, respectively. These differences appear to have been accounted for by differences among offenders and their crimes that could be legitimately considered at time of sentencing. To estimate the extent to which race/ethnic differences remained in the length of imprisonment terms, after accounting for the characteristics that were most strongly and legitimately associated with the setting of these terms, ordinary least-squares regression models were constructed. The model shown in Table 9.4, included information about the offense, the offenders' prior record, criminal justice status at the time of the offense, and race/ethnicity.² It is a relatively strong

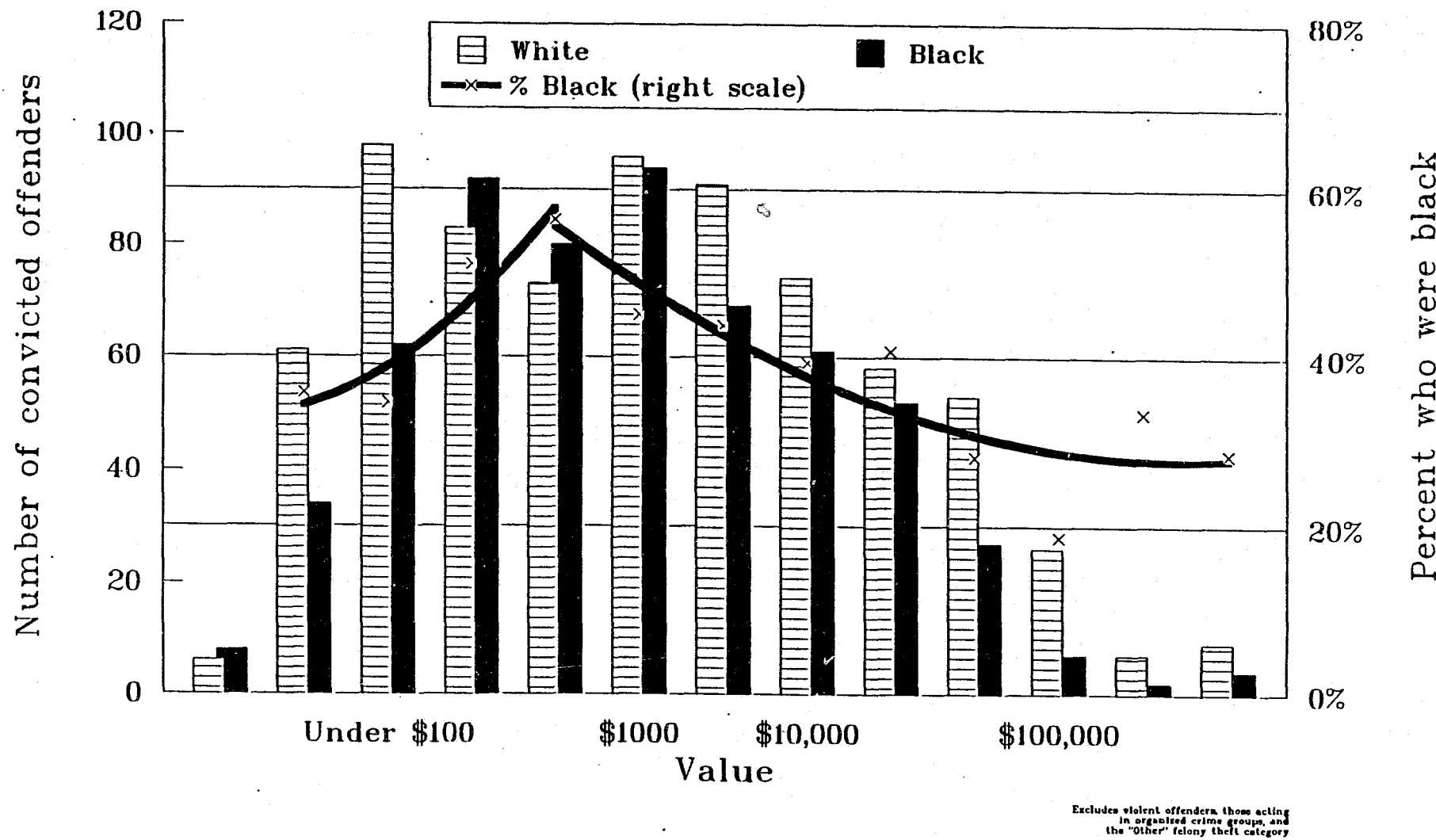
¹ The categories are defined by $\exp(\text{round}(\ln(\text{value})))$.

² Although the offender's going to trial rather than pleading guilty was not found to be predictive of the length of sentence imposed, we found that there was a relationship between the length of the prison term and the FPSSIS records missing information about this factor. The categorical variables describing case processing information were therefore included in the model.

Larceny

Number of convicted offenders by race and value of theft

Figure 9.1

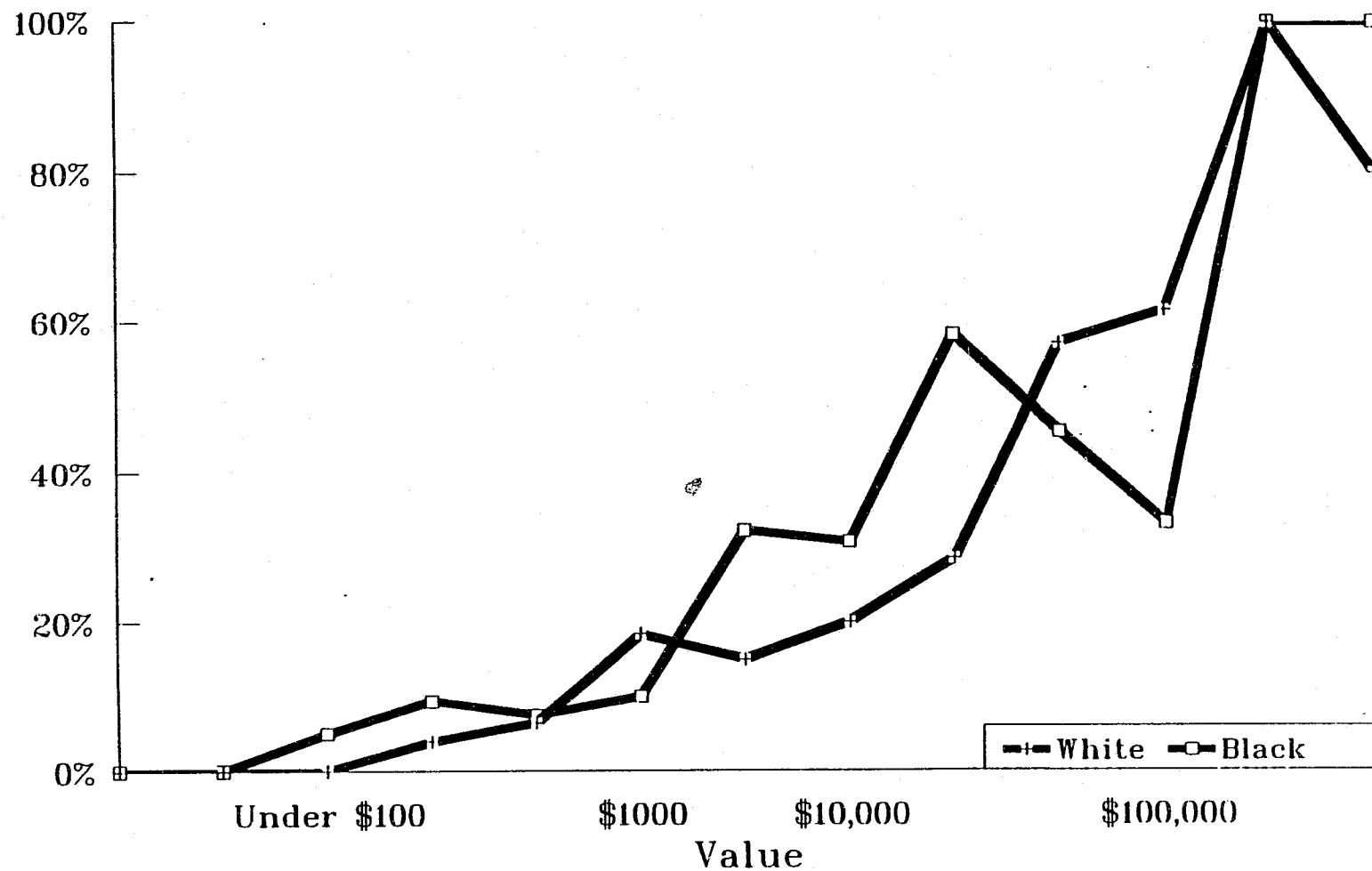


Percent sentenced to prison

*Figure 9.2

Larceny First offenders

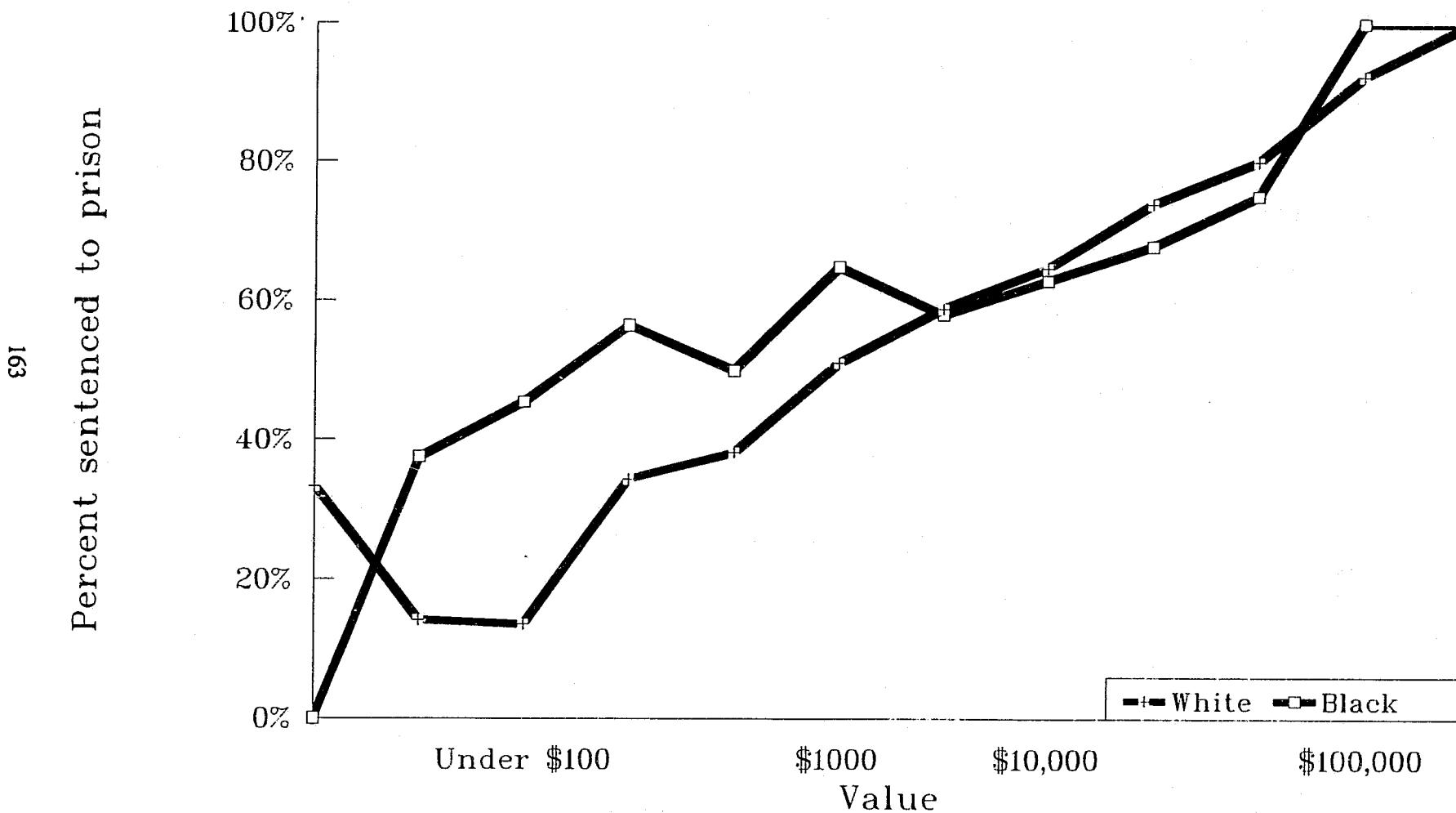
by race and value of theft



Excludes violent offenders, those acting
in organized crime groups, and
the "Other" felony theft category

Figure 9.3

Larceny Previously convicted by race and value of theft



Excludes violent offenders, those acting
in organized crime groups, and
the "Other" felony theft category

Table 9.4
Length of Prison Sentences for Larceny: OLS Regression Models
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	B	<u>exp(B)-1</u>	p(B=0)
Offense characteristics			
MAJ3100	.5327	70%	.0017
MAJ3800	-.2934	-25%	.2043
MAJ3400	-.3517	-30%	.0309
MAJ3300	.1513	16%	.3572
MAJ3200	-.2715	-24%	.0765
L_DOLLAR	.0977	10%	.0000
DOL_DUM	.3973	49%	.0054
FELONY	.7072	103%	.0000
MULTIPLE	.5172	68%	.0000
ON_GO	.3580	43%	.0000
Role in the offense			
MORECULP	.2321	26%	.0042
LESSCULP	-.2730	-24%	.0049
SAMECULP	.0506	5%	.5080
Offender's prior record			
CONVADT	.0372	4%	.0112
CONF15Y	.0648	7%	.0176
CONF5YRN	.1084	11%	.0042
MONFREE	-.0041	0%	.0022
PANDP	.2666	31%	.0002
ANY_REV	.1692	18%	.0381
Case processing			
LATEPLEA	-.0688	-7%	.2899
TRIAL	.1428	15%	.2240
PLEAMISS	-.5162	-40%	.0000
Race/ethnicity			
BLACK	-.0709	-7%	.2553
HISPANIC	.1310	14%	.2612
Constant	.7379	2.09%	.0016

Model	R ²	df	p
Excluding race	.5344	727	
Including race	.5366	725	
Difference	.0022	2	.1838

model, as it accounted for about 54% of the observed variance in the length of imprisonment terms. Once the effects of these legally relevant offense and offender characteristics were accounted for, no evidence remained of any significant difference in the length of imprisonment sentences given to whites, blacks, or Hispanics.

Summary

The only apparent disparity in sentences for larceny was that blacks were about 50% to 60% more likely to get a prison sentence, after accounting for many of the differences measured in the available data files. Although Hispanics had the highest odds of getting prison sentences, this appears to have resulted from legitimately considered differences that distinguished them from others. All of the differences in the length of imprisonment sentences imposed by the Federal district courts appear to be explained by whites, blacks, and Hispanics differing in ways that are legitimately considered when deciding sentence.

Embezzlement

Nearly 60% of all offenders who were convicted of embezzlement and who were subject to sentencing under the guidelines were white. Thirty-five percent were black, and only 5% were Hispanic (Table 10.1). The imprisonment rate for all embezzlers taken together was 28%, and they were given prison sentences averaging 9 months. A majority were women: 54%. Nearly all offenders (84%) acted alone, and the average amount embezzled was \$291,823. Nearly all were first offenders, which is not surprising because persons with criminal records have poor prospects for getting work where they handle money. Fifteen percent of those convicted were identified as having a drug problem. Nearly half of all embezzlers (44%) were convicted of stealing from a bank; 26% from the postal service; 12% from public money or property; and 13% from a lending, credit, or insurance institution.

There was very little difference among whites, blacks and Hispanics in the proportions receiving a sentence of imprisonment: 28% of all whites and blacks convicted went to prison, compared with 30% for Hispanics. Whites received slightly longer sentences, however: 11 months, compared with 9 months for Hispanics and 6 months for blacks. Because the difference in imprisonment rates was small, the prison/not prison decision was not analyzed. However, because the differences in average length of sentences were larger, we undertook an analysis of why whites and Hispanics received longer sentences upon conviction for embezzlement.

Differences Among Whites, Blacks, and Hispanics

Whites, blacks, and Hispanics differed from one another in characteristics that were found to be correlated with longer sentences (Table 10.2). For example, blacks had more prior convictions as adults; were less likely to have committed the crime as part of an organized criminal enterprise or as a series of crimes. Blacks were also more often under criminal justice supervision at the time of committing the offense; were found in larger numbers in the South; were younger; and were more often identified as having drug abuse problems.

Being white or black was correlated with the amount of money embezzled—one of the most powerful predictors of the length of sentence imposed by Federal judges. This is evident in Figure 10.1, which compares the numbers of white and black first offenders convicted of embezzlement, within similar ranges of amounts stolen. Nearly half of all offenders convicted of embezzling amounts under \$1,000 were black, but the proportion of blacks drops off significantly in convictions of embezzling amounts

Table 10.1

**Descriptive Statistics for Embezzlement Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)**

Sentencing Outcomes

LOCKEDUP	(received prison sentence)	27.9 %
PRISMO4	(length of prison sentence imposed)	9.0 mos.

Characteristics of Offenses

MAJ4100	(major offense of conviction: bank)	43.7 %
MAJ4200	(major offense of conviction: postal)	26.1 %
MAJ4310	(major offense of conviction: public money or property)	12.2 %
MAJ4320	(major offense of conviction: lending, credit and insurance institutions)	12.9 %
MAJ4330	(major offense of conviction: by officers of a carrier)	0.1 %
MAJ4340	(major offense of conviction: World War Veterans Relief)	0.1 %
MAJ4350	(major offense of conviction: by officer or employee of the United States)	10.4 %
MAJ4390	(major offense of conviction: other)	3.9 %
DOL_AMT	(dollar amount involved in the offense)	\$291,823
FELONY	(principal offense of conviction was felony)	76.9 %
MULTIPLE	(offender convicted of multiple offenses)	4.7 %
ONGOING	(offense involves multiple or ongoing crimes)	69.7 %
ON_GO	(offense was part of an ongoing organized criminal enterprise)	20.3 %
SOLO	(acted alone)	83.5 %
LEADER	(offender played a leadership role in an organized crime)	0.1 %
WORKER	(offender played a role of a worker in an organized crime)	0.0 %
SUPERVIS	(offender played a role of a supervisor in an organized crime)	0.1 %
MORECULP	(role of offender was of greater culpability when acting with others)	3.2 %
LESSCULP	(role of offender was of lesser culpability when acting with others)	2.1 %
SAMECULP	(role of offender was of equal culpability when acting with others)	4.8 %
ROLEMISS	(information about offender's role was missing)	6.2 %

Characteristics of Offenders' Criminal History/Criminal Livelihood

CONVADT	(no. of prior adult convictions)	0.3
CONFLTYN	(no. of times confined 1 year or less)	0.0
CONF15Y	(no. of times confined 1 to 5 years)	0.0
CONF5YRN	(no. of times confined more than 5 years)	0.0
THISOFF	(no. of times previously convicted of this offense)	0.1
MONFREE	(no. of months free since last incarceration of more than 30 days)	75.7 mos.
FREE	(not under criminal justice supervision at time of offense)	94.8 %
PANDP	(on probation or parole at time of offense)	3.1 %
ON_BAIL	(offender on bail at time of offense)	0.6 %
ANY_REV	(any prior revocation of supervision order)	2.2 %

Case Processing Characteristics

EARLPLEA	(pledged guilty at initial hearing)	55.2 %
LATEPLEA	(changed plea to guilty in later hearing)	36.1 %
TRIAL	(convicted by trial)	1.8 %
PLEAMISS	(missing information about plea/trial)	6.9 %
BARGAIN	(charges reduced/dismissed)	36.9 %

Table 10.1 (continued)

**Descriptive Statistics for Embezzlement Cases
Subject to Guidelines (January 20, 1989 - June 30, 1990)**

Characteristics That Judges Are Prohibited or Discouraged from Considering When Determining Sentence

AGE1	(age at sentencing)	33.7 yrs.
MALE	(gender of offender)	45.8 %
EMPLBEG	(no. of months worked during year prior to arraignment)	9.1 mos.
EMPLMO	(monthly salary during year prior to arraignment)	\$1,045
DOPER	(drug problem identified)	15.2 %
CIRDC	(District of Columbia)	13.4 %
CIR01	(First Circuit)	1.8 %
CIR02	(Second Circuit)	11.1 %
CIR03	(Third Circuit)	6.2 %
CIR04	(Fourth Circuit)	8.0 %
CIR05	(Fifth Circuit)	10.2 %
CIR06	(Sixth Circuit)	12.1 %
CIR07	(Seventh Circuit)	10.3 %
CIR08	(Eighth Circuit)	6.2 %
CIR09	(Ninth Circuit)	15.6 %
CIR10	(Tenth Circuit)	5.1 %
SOUTH	(sentenced in the southern region of the United States)	35.5 %
BLACK	(non-Hispanic Black)	35.4 %
HISPANIC	(Hispanic origin)	5.0 %
WHITE	(non-Hispanic White)	59.6 %

na. = data not collected during this period

Table 10.2

Embezzlement Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)

	<u>Sentenced to Prison</u>	<u>Logarithm of Sentence Length</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
<u>Sentencing Outcomes</u>					
LOCKEDUP			.00	-.01	.01
PRISMO_L			.28***	-.29***	.00
<u>Characteristics of Offenses</u>					
MAJ4100	.01	.17***	.09***	-.11***	.03
MAJ4200	-.08**	-.29***	-.20***	.20***	.01
MAJ4310	-.02	.00	-.00	.01	-.01
MAJ4320	.04	.05	.11***	-.11***	-.01
MAJ4330	.04	.04	.02	-.02	-.01
MAJ4340	.06*	-.04	.03	-.03	-.01
MAJ4350	.06*	-.04	-.02	.03	-.02
MAJ4390	.05*	.07	.03	-.02	-.02
FELONY	.24***	.32***	-.01	.03	-.04
MULTIPLE	.19***	.12*	-.02	.03	-.02
L_DOLLAR	.37***	.52***	.19***	-.18***	.01
ONGOING	.18***	.26***	.11***	-.09**	-.04
ON_GO	.20***	.38***	.11***	-.11***	-.06*
SOLO	-.09***	-.22***	.03	-.03	-.01
LEADER	.02	.07	-.04	-.03	.16***
SUPERVIS	.05	.03	.02	-.02	-.01
MORECULP	.07**	.17***	-.02	.03	-.01
LESSCULP	-.01	.01	-.02	.03	-.01
SAMECULP	.02	.16**	-.01	-.00	-.03
ROLEMISS	.35***	-.17***	-.01	.02	-.02
<u>Characteristics of Offenders' Criminal History/Criminal Livelihood</u>					
CONVADT	.16***	.05	-.09***	.09***	-.01
CONFLYN	.13***	.11*	-.02	.02	.01
CONF15Y	.12***	.13**	-.02	.02	.00
CONF5YRN	.07**	.09	-.02	.01	.00
THISOFF	.12***	.03	-.03	.03	-.01
MONFREE	-.15***	-.12*	.00	.00	-.00
FREE	-.16***	-.04	.08**	-.07*	-.03
PANDP	.11***	.10*	-.03	.03	-.01
ON_BAIL	.06*	-.06	-.03	.04	-.02
ANY_REV	.17***	.13**	-.00	-.00	.01

Table 10.2 (continued)

**Embezzlement Cases Subject to Guidelines:
Correlates of Being Sentenced to Prison, Length of Prison Sentence, and
Offender Being White, Black, or Hispanic (January 20, 1989 - June 30, 1990)**

	Sentenced to Prison	Logarithm of Sentence Length	White	Black	Hispanic
Case Processing Characteristic					
EARLPLEA	-.17***	.06	-.05*	.05*	.00
LATEPLEA	-.07**	.04	.08**	-.08**	.01
TRIAL	.08**	.14**	-.03	.04	-.01
PLEAMISS	.43***	-.18***	-.02	.04	-.03
BARGAIN	.02	.08	-.05*	.01	.09***
Characteristics That Judges are Prohibited or Discouraged from Considering When Determining Sentence					
AGE1	.12***	.22***	.16***	-.16***	-.02
MALE	.14***	.01	-.03	.02	.02
EMPLBEG	-.05*	.03	.06*	-.06*	-.01
EMPLMO	.01	.16***	.08**	-.06*	-.03
DOPER	.06*	-.05	-.17***	.17***	-.00
CIRDC	-.05*	.06	-.03	.02	.04
CIR01	.05	.05	.02	-.03	.01
CIR02	-.05*	-.06	-.13***	.12***	.04
CIR03	-.01	-.03	.02	-.01	-.03
CIR04	.03	-.01	-.08**	.11***	-.07**
CIR05	.10***	.16**	-.09**	.01	.17***
CIR06	-.06*	.01	.06*	-.02	-.09***
CIR07	.04	-.14**	-.01	.04	-.06*
CIR08	.07**	-.06	.08**	-.05*	-.06*
CIR09	-.04	.01	.11***	-.12***	.02
CIR10	-.02	-.00	.10***	-.11***	.02
SOUTH	.05	.17***	-.10***	.06*	.08**

*** p < .001

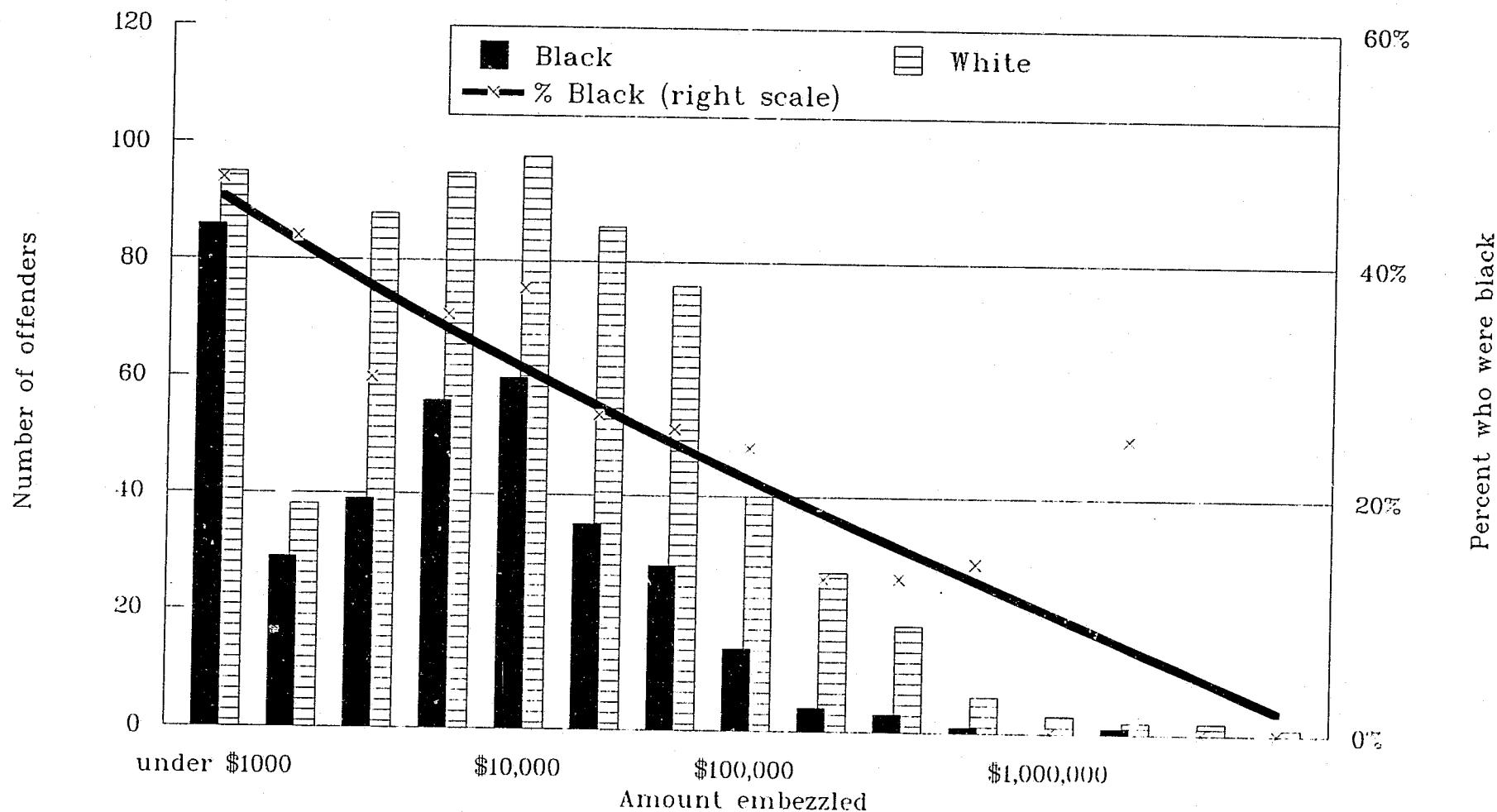
** p < .01

* p < .05

Figure 10.1

First offenders: Embezzlement

Number of convicted offenders
by race and amount embezzled



above \$100,000. The drop-off probably reflects blacks less frequently being given positions in which large amounts of money could be embezzled.

Legitimately Considered Differences Account for Whites' Longer Sentences

Among those who were given imprisonment terms, blacks received sentences that averaged 4.4 months, or 42% shorter, than whites and Hispanics convicted of embezzlement. To estimate the extent to which these shorter terms resulted from legitimately considered differences in offenders and their crimes, models were constructed that included measures of those differences. Also included were variables that specified the circuit in which the offender was prosecuted, as well as whether he or she was black or Hispanic (Table 10.3). The model estimated that blacks received sentences approximately 24% shorter than those given to whites, once the differences measured were accounted for. In other words, these other measured differences accounted for about half of the observed difference in length of average prison terms between blacks and all others (Table 10.3.). This estimate did not change significantly when other potentially important variables available in the data set were included—whether or not they measured legitimately or illegitimately considered characteristics (Table A-10.3 in Appendix 1).

A separate analysis comparing the length of sentence, the amount embezzled, and the race of the offender provided conflicting evidence, however. The strongest predictor of sentence length was the amount of money embezzled. At each value level, the sentences imposed on black and white offenders were approximately equal (Figure 10.2). White offenders received slightly longer sentences for the lowest dollar amounts stolen, but examination of individual records indicates that this reflected at most three offenders with seemingly extreme sentences. Further inspection of the data revealed that the most extreme observation was a 36-month sentence given to a white woman who embezzled \$3,000 from the postal system. The sentence was actually 36 months of probation with intermittent weekend incarceration (which was coded in the data as a 36 month incarceration term). When the small number of these extreme cases were excluded, there was no clear difference in the length of sentences imposed on blacks, whites, and Hispanics.

In summary, what appears to be a difference in the length of prison sentences imposed following a conviction for embezzlement is probably entirely accounted for by legitimately considered differences in the offenders' crimes and prior criminal records.

Table 10.3
Length of Prison Sentences for Embezzlement: OLS Regression Models
(Guideline Cases: January 20, 1989 - June 30, 1990)

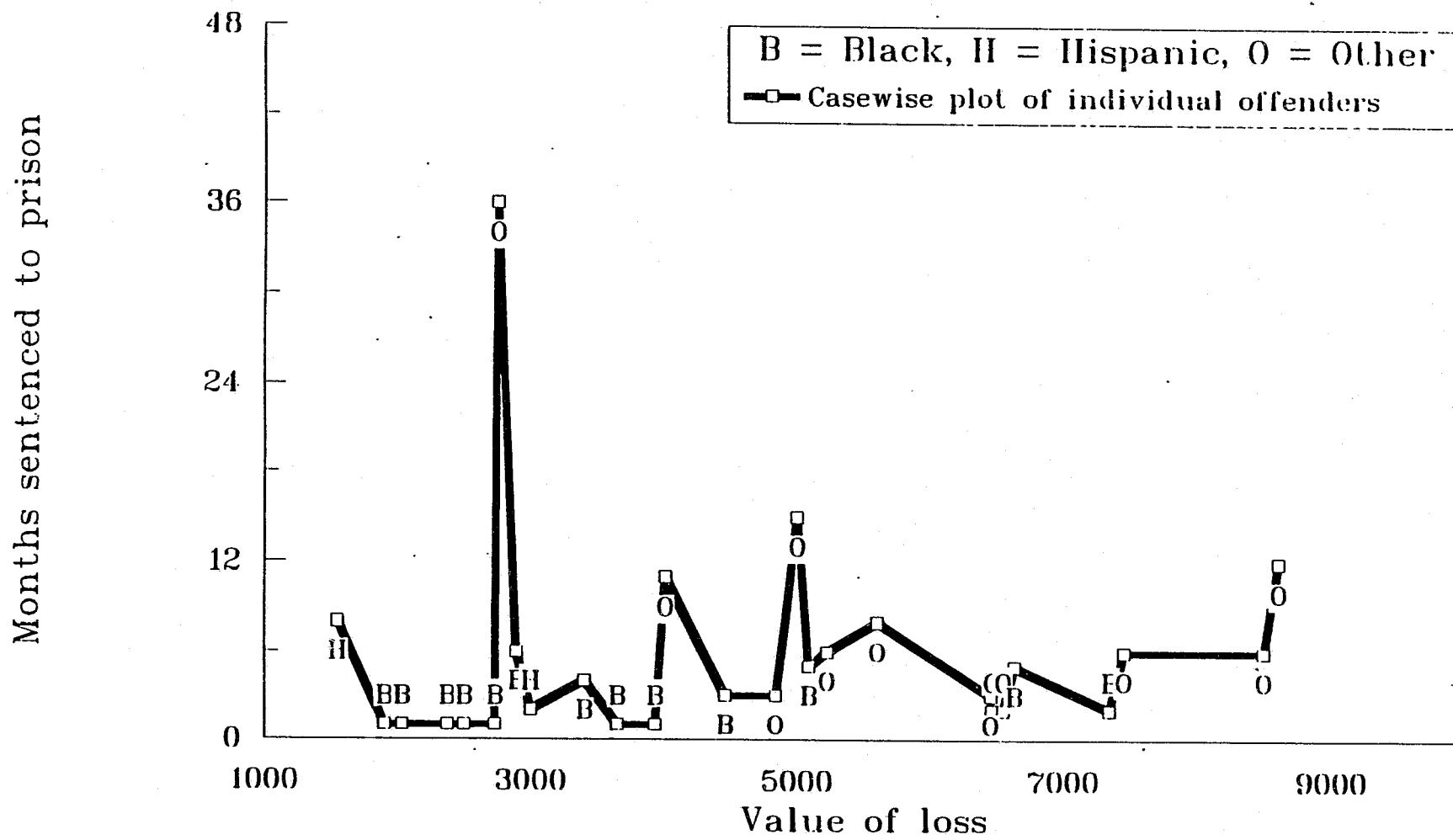
<u>Variable</u>	B	exp(B)-1	p(B=0)
Offense characteristics			
L_DOLLAR	.1853	20%	.0000
FELONY	.2239	25%	.0112
ON_GO	.4208	52%	.0000
Role in the offense			
MORECULP	.4312	54%	.0079
SAMECULP	.3998	49%	.0203
Offender's prior record			
PANDP	.5678	76%	.0011
ANY_REV	.5186	68%	.0054
Case processing			
LATEPLEA	-.0584	-6%	.5085
TRIAL	.6720	96%	.0011
PLEAMISS	-.1853	-17%	.3042
Race/ethnicity			
BLACK	-.2729	-24%	.0051
HISPANIC	-.1046	-10%	.5604
Constant	-.3058	.74%	.1676

Model	R ²	df	p
Excluding race	.4464	315	
Including race	.4599	313	
Difference	.0135	2	.0209

Figure 10.2

Embezzlement Length of imposed prison sentence

First offenders
\$1000 to \$10,000 value



Did the Guidelines Enlarge the Differences in Sentences Given to White, Black, and Hispanic Offenders?

Most of the differences in sentences given to whites, blacks, and Hispanics in guideline cases can be traced to dissimilarities that are legitimately considered when determining sentences, as the preceding chapters have discussed. However, this does not explain why the differences in sentences were larger in guideline cases than in cases not subject to the Sentencing Reform Act of 1984. Whereas the average imprisonment sentence given to blacks in non-guideline cases disposed in 1986-1988 differed from sentences given to whites by only two to four months (depending upon the year), the gap had grown to 18 months in guideline cases in 1989, and to 25 months during the first half of 1990. Or, put differently, blacks' sentences averaged no more than 8% longer than whites in non-guideline cases in 1986-1988, but were 37% longer in 1989, and 47% longer in the first six months of 1990. (See Table 3.8 in Chapter 3.)

To be sure, part of this increasingly large difference resulted from a changing mix of offenders sentenced in guideline cases during this period, with a larger proportion of blacks convicted in 1989-1990 of offenses more severely punished, compared to the 1986-1988 period. However, as discussed in Chapter 3, even after adjustments are made for these changes in the composition of sentenced offenders, the fact remains that the differences in sentences given to blacks and whites in guideline cases in 1989-1990 were larger than in non-guideline cases disposed during 1986-1988. Can these differences be attributed to the implementation of sentencing guidelines?

Some researchers (e.g., Petersilia and Turner 1987) have raised the possibility that guideline-based sentencing procedures (in general) have different impacts upon blacks, whites, and Hispanics because of the weight given in many guideline systems to characteristics that may be correlated with race or ethnicity. The Federal sentencing guidelines were designed by a commission that decided how much importance should be given to various aspects of an offender and his or her crime. Some characteristics were not deemed to be relevant to sentencing, and the commission explicitly forbade consideration of them. A variety of other characteristics were declared legitimate, and the commission decided how much weight should be given to each, relative to the others. In doing so, the commission was informed by research studies of Federal non-guideline sentencing practices. The commission did not, however, simply create a mechanical weighting system that would replicate past practices as faithfully

as possible. Instead, decisions were made to raise levels of punishment for certain types of offenses and offenders (Hutchison and Yellen 1989: 5-14; Block and Rhodes 1987). Moreover, distinctions were drawn one way rather than another for the purpose of scoring the offender's criminal history or offense, and these distinctions affect the severity of the guideline sentences.

For example, the decision rules used to compute the Federal guideline ranges for each offender's sentence give great weight to the offender's criminal record, and to whether or not firearms were used in the crime. Blacks convicted of bank robbery in Federal courts during 1989 and the first half of 1990 more often had prior bank robbery convictions on their record than did whites, and were more often charged with using a gun in the instant offense. These characteristics resulted in longer average guideline sentencing ranges being computed for black bank robbers. Had the decision rules been designed differently, reducing, for example, the importance of prior bank robberies relative to other aspects of the current offense, sentences given to blacks and whites might not have differed as much.

Our findings that most of the dissimilarities in sentences given to whites, blacks, and Hispanics in guideline cases can be attributed to legitimately considered differences does not preclude the possibility that the guidelines might have enlarged the gap in punishments given to these three racial/ethnic populations. By weighting factors more heavily that were associated with being black or Hispanic, the guidelines might have increased the sentences given to blacks and Hispanics relative to whites, but these differences would still be fully explained by the legally relevant characteristics considered in the guidelines or related legislation. In other words: sentencing differences may be larger under the guidelines than before, and these differences may reflect not unwanted disparity but rather choices made by Congress and the Sentencing Commission in the course of designing sentencing policy.

This chapter analyzes sentencing differences in 1989-90 guideline cases, as compared with 1986-88 non-guideline cases, to discern whether the structure of the guidelines themselves created larger differences among sentences given to whites, blacks, and Hispanics. It then examines another possible explanation of the observed sentencing differences: that they resulted not from implementation of the guidelines but from changes in the substantive law governing sentencing of specific types of offenders, especially those convicted of crack cocaine trafficking, and from the Sentencing Commission's subsequent incorporation of these changes into the guidelines.

Sentencing Differences Before and After Implementation of the Guidelines

The different sentences given to whites, blacks, and Hispanics in guideline and non-guideline cases are shown in Tables 11.1 and 11.2. The former compares the proportion sentenced to imprisonment, the latter the average length of imprisonment sentence imposed. All guideline cases

Table 11.1

**Proportion Sentenced to Prison, Non-Guideline (1986-1988)
and Guideline Cases (January 20, 1989 - June 30, 1990), by Race/Ethnicity**

<u>Primary offense of conviction</u>	Non-guideline			Guideline			Odds ratio (Black/White)	
	White	Black	Hispanic	White	Black	Hispanic	Non-guideline	Guideline
All offenses	54.3%	54.1%	69.2%	71.6%	78.3%	85.1%	.99	1.43
Violent offenses	75.5	83.6	84.0	92.4	95.4	93.4	1.65	1.71
Murder/manslaughter	95.2	87.7	95.5	91.7	88.5	95.8	.36	.70
Assault	39.6	50.8	69.9	60.7	82.8	81.6	1.57	3.12
Robbery	93.8	96.4	94.3	99.1	98.5	98.6	1.77	.60
Bank	94.0	96.5	96.9	99.2	98.4	98.5	1.76	.50
Rape	89.2	94.8	-	-	-	-	2.21	-
Other sex offenses	47.5	77.4	61.9	71.8	-	-	3.79	-
Kidnapping	96.6	93.8	-	100.0	-	-	.53	-
Other	75.8	-	-	88.9	-	-	-	-
Property offenses	46.8	44.3	47.0	51.1	51.5	54.6	.90	1.02
Fraudulent offenses	45.5	42.3	45.0	51.1	51.3	53.2	.88	1.01
Embezzlement	31.3	27.4	24.2	28.2	27.7	29.7	.83	.98
Fraud	49.5	46.1	47.9	59.1	58.9	52.6	.87	.99
Forgery	47.1	45.7	53.2	58.5	59.8	68.5	.95	1.06
Counterfeiting	57.1	61.8	56.3	65.7	65.5	62.2	1.22	.99
Other offenses	50.6	48.5	52.9	51.0	52.0	62.0	.92	1.04
Burglary	82.0	81.4	80.6	94.0	94.4	-	.96	1.08
Larceny	41.1	45.2	50.8	41.6	47.2	51.9	1.18	1.25
Motor vehicle theft	73.9	63.6	58.3	81.0	84.4	95.2	.62	1.27
Arson	85.7	-	-	-	-	-	-	-
Transportation of stolen property	69.9	58.6	76.9	73.4	82.8	-	.61	-
Other property	23.8	38.0	34.4	36.1	-	-	1.96	1.74
Drug offenses	76.0	80.4	83.7	85.6	93.4	92.9	1.30	2.38
Trafficking	84.5	89.2	89.3	92.2	96.4	97.1	1.52	2.27
Cocaine ^a	84.2	89.2	90.3	94.1	96.7	97.9	1.55	1.84
Possession and other	21.6	29.8	39.0	31.6	50.5	50.4	1.54	2.21
Public order offenses	39.0	37.9	57.3	66.4	76.7	81.7	.95	1.67
Regulatory offenses	33.6	24.7	46.5	45.8	48.6	68.1	.65	1.12
Weapons	62.6	77.9	69.0	78.0	91.3	83.9	2.11	2.96
Immigration offenses	43.4	45.8	58.6	77.5	80.0	83.8	1.10	1.16
Tax law violations	47.5	42.6	54.2	64.0	-	-	.82	-
Racketeering and extortion	77.0	85.5	78.9	81.9	84.4	86.8	1.76	1.20
All other	24.1	23.1	48.1	61.2	63.0	78.9	.95	1.08

- Too few cases to obtain statistically reliable data

^a "Cocaine" includes all forms of cocaine, except where cocaine could not be identified as the primary drug because drugs other than cocaine were also reported in the records.

Table 11.2

**Mean Length of Prison Sentences Imposed (in Months),
Non-Guideline (1986-1988) and Guideline Cases (January 20, 1989 - June 30, 1990),
by Race/Ethnicity**

<u>Primary offense of conviction</u>	Non-guideline			Guideline			Ratio of black to white sentences	
	<u>White</u>	<u>Black</u>	<u>Hispanic</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>	<u>Non-guideline</u>	<u>Guideline</u>
All offenses	50.2 mo	53.4 mo	51.6 mo	50.4 mo	71.1 mo	47.8 mo	106%	141%
Violent offenses	120.7	136.2	109.0	85.5	101.2	85.7	113	118
Murder/manslaughter	174.4	256.4	187.7	121.1	157.4	122.0	147	130
Assault	47.8	42.6	53.0	41.1	48.3	33.6	89	118
Robbery	138.7	153.4	126.7	90.1	104.1	88.0	111	116
Bank	139.8	160.8	126.0	90.3	104.7	91.8	115	116
Rape	88.9	132.7	-	-	-	-	149	-
Other sex offenses	45.5	44.9	-	34.1	-	-	99	-
Kidnapping	200.9	202.7	-	178.7	-	-	101	-
Other	44.6	-	-	32.3	-	-	-	-
Property offenses	35.1	29.4	31.3	17.6	15.4	10.4	84	88
Fraudulent offenses	32.8	26.2	28.8	15.2	12.5	9.1	80	82
Embezzlement	23.9	16.9	28.7	10.7	6.2	9.1	71	58
Fraud	33.5	27.3	27.6	16.0	14.6	7.0	81	91
Forgery	38.8	28.2	32.7	16.5	9.9	14.8	73	60
Counterfeiting	36.2	29.3	28.0	15.5	14.9	17.0	81	96
Other offenses	41.4	35.5	37.7	22.7	21.3	16.3	86	94
Burglary	74.8	88.7	60.0	44.0	60.3	-	119	137
Larceny	36.0	29.3	36.4	19.9	15.8	14.1	81	79
Motor vehicle theft	42.7	34.4	-	19.1	14.9	12.8	81	78
Arson	42.1	-	-	-	-	...	-	-
Transportation of stolen property	44.7	46.0	37.2	25.6	42.0	-	103	164
Other property	20.3	15.0	-	14.2	-	-	74	-
Drug offenses	60.4	64.1	66.0	67.8	93.1	64.9	106	137
Trafficking	61.9	66.7	67.7	70.2	95.8	67.9	108	136
Cocaine ^a	64.3	70.3	82.1	74.4	101.7	96.1	109	137
Possession and other	21.9	19.7	34.8	12.5	17.2	7.6	90	138
Public order offenses	33.1	38.2	23.4	27.4	41.7	14.7	115	152
Regulatory offenses	36.6	42.5	37.8	23.5	21.0	16.5	116	89
Weapons	45.8	53.3	36.1	36.0	55.6	41.6	116	154
Immigration offenses	15.7	17.6	16.6	10.6	9.2	9.1	112	87
Tax law violations	18.5	25.2	34.9	28.2	-	-	136	-
Racketeering and extortion	70.8	70.9	104.5	50.6	63.1	65.2	100	125
All other	17.2	16.7	22.4	17.4	17.6	19.8	97	101

- Too few cases to obtain statistically reliable data

... No cases of this type occurred in the data

^a "Cocaine" includes all forms of cocaine, except where cocaine could not be identified as the primary drug because drugs other than cocaine were also reported in the records.

sentenced between January 20, 1989, and June 30, 1990, are combined, as are all non-guideline cases sentenced during 1986-1988.

Throughout 1986-1988, blacks received sentences that averaged about 6% longer than those received by whites in non-guideline cases. Under guidelines, however, the difference grew substantially, to 41% (Table 11.2). Among the most significant changes were the lengths of imprisonment sentences imposed for cocaine trafficking. Sentences for blacks convicted of this crime in guideline cases were 37% longer than for whites, and 29% longer than sentences for Hispanics. In non-guideline cases, the differences were narrower for blacks (blacks' sentences averaged 9% longer than whites' sentences) but the white/Hispanic difference remained the same. As discussed in Chapter 5, most, if not all, of the black/white difference in guideline sentencing for cocaine resulted from the overrepresentation of blacks convicted of trafficking in crack, which was much more heavily punished than trafficking in powdered cocaine. We were not able to distinguish crack from powdered cocaine in non-guideline cases—for lack of sufficient information in the data files—but for most of those sentenced in 1986-1988, the distinction had no legal significance. Only those who were convicted of committing a drug trafficking crime involving crack cocaine after the passage of the Anti-Drug Abuse Act of 1986 in October of that year were subject to the stiffer penalties.

For weapons offenses, the differences in length of sentences given to whites and blacks also increased under the guidelines. In non-guideline cases, blacks received imprisonment sentences that were 16% longer than sentences received by whites. In guideline cases, the difference increased to 54%. Among Hispanics, the difference also grew larger: from 21% shorter than sentences received by whites prior to the guidelines, to 16% longer in cases subject to the guidelines.

Sentencing differences for bank robbery were significant in guideline cases but were also found among offenders sentenced before implementation of the guidelines. In 1989-1990, blacks' sentences were 16% longer than those received by whites. In non-guideline cases reaching disposition in 1986-1988, blacks' sentences averaged 15% longer.

Do the Guidelines Create Differences in Sentencing That Would Not Exist in Their Absence?

To explore if the guidelines give greater weight to race-correlated characteristics than judges would give them in their absence, we simulated how sentencing outcomes in 1984-1985 would have changed if the guidelines had been applied and if judges had complied with them in a perfectly uniform manner. By so doing, the confounding effects of uneven compliance with the guidelines are

distilled out, as are the effects resulting from changing mixes of offenders. The tendencies intrinsic to the guideline decision rules thereby become more apparent.

The simulation was conducted using a modification of a computer program developed by the U.S. Sentencing Commission and the Bureau of Prisons to estimate the impact of guideline sentences on the size of the Federal prison populations (Block and Rhodes 1989). This program was applied to data developed by the U.S. Sentencing Commission, comprised of a random sample of 10,000 offenders sentenced between October 1, 1984, and September 30, 1985, a period well before the guidelines were developed. This sample is the only pre-guidelines data base which includes enough variables to compute (or approximate) guideline sentences for each offender. The sample was stratified to overrepresent types of crimes for which comparatively few offenders were convicted. For each offender, the Sentencing Commission augmented information from computerized Federal Probation Sentencing and Supervision Information System (FPSSIS) records with more detailed information about the crimes and the offenders from paper records. The resulting data set contains information similar to that considered by the courts when computing guideline ranges in cases subject to the Sentencing Reform Act of 1984.

Because the data were drawn from a stratified sample, each of the sampled offenders' records would have to be weighted according to the sampling fraction if one were interested in estimating the distribution of characteristics for the entire population of offenders sentenced between October 1984 and September 1985. Because we were not interested in estimating the actual effect on sentencing guidelines on the entire population—or on the population of persons going to prison—we have not weighted the data. Instead, we were interested simply in the difference between sentences simulated and actually imposed on each individual offender, and on whites, blacks, and Hispanics as a group. The reader should not, consequently, see the aggregate as representative of the 1984-1985 universe of offenders.

Throughout, we adopted the official decision rules about how cases would be treated.¹ For example, we applied the permitted "discount" for pleading guilty—a two-step reduction in the "base offense level"—which results in a lower guideline range. We also assumed that there was no variation

¹ We did not adopt all of the assumptions made by the designers of the original simulation program. Their program not only applies the official rules but also makes assumptions about how much variation will be found in judges' compliance with the guidelines. Because we are interested only in the effects resulting from rules intrinsic to the guidelines, we did not simulate variation by judges.

resulting from the judges' differential application of the guidelines. This was accomplished by assigning each offender a simulated sentence from the mid-point of the guideline range.²

We made no attempt to estimate the out-of-range sentence that might have been imposed upon persons who provided "substantial assistance" to the government—that is, those who aided in building a case against others. Those offenders who were so identified in the data set were simply taken out of the simulation. What we had left, consequently, were offenders in 1984-85 who would have been subject to sentencing under the guidelines had they existed at that time.

The results of this simulation suggest that guidelines, if they had been complied with in a mechanically precise manner, would have *reduced*, not enlarged, the differences that were found in sentences actually given to whites, blacks, and Hispanics during the pre-guideline year between October 1984 and September 1985. Following the guidelines would have reversed the gap between whites and blacks in the length of sentences imposed and reduced its magnitude by more than half. The difference between white and Hispanic sentences would have been reduced even more dramatically, from a large difference in actual sentences to no difference under the guidelines. Differences in relative imprisonment rates would also have been reduced substantially.

Guideline sentencing reduced ethnic/racial differences in imprisonment rates primarily because it *increased all* imprisonment rates (Table 11.4). Whereas the actual imprisonment rate for all offenders in this sample was 73%, the simulated guideline rate would have been 92% (Table 11.3). This is generally consistent with the pattern of actual sentencing in guidelines cases during 1989-1990 (Table 11.1). For most offense categories, imprisonment rates in guideline cases sentenced during 1989 and 1990 were roughly similar to the simulated 1985 rates. The only crimes for which the difference in imprisonment rates among whites, blacks, and Hispanics would have increased were larceny and counterfeiting (Table 11.4).

² There were two exceptions to this rule. Because the lowest guideline range recommends not a non-incarcerative sentence, but instead a range between non-incarceration and six months behind bars, simulating the sentence as the midpoint of this range would send all offenders having a 0-6 month guideline range to prison for three months. Therefore, if a 0-6 month guideline range was computed and the actual sentence imposed in 1984-85 was a non-incarcerative sentence, we also simulated a non-incarcerative guideline sentence.

Conversely, the second-highest guideline range recommends 360 months to life. Rather than make an arbitrary assumption about how long such a guideline sentence would be, we made a conservative assumption. If a guideline range of 360 months to life was computed, and if the offender actually received any sentence other than life, we arbitrarily simulated that offender's sentence to be 360 months. For the top range—which recommends only a life sentence—we simulated the term to be 480 months, or 40 years.

Table 11.3

**Comparing Actual Imprisonment Rates to Simulated Rates,
Assuming Sentences Conform Perfectly to Simulated Guidelines
(October 1, 1984 - September 30, 1985)**

<u>Primary Offense of Conviction</u>	Total Number of Offenders	Actual Proportion Sentenced to Prison	Simulated Proportion Sentenced to Prison	Increase/ Decrease Under Guidelines
All Offenses	6,948	72.6%	92.4%	19.8%
Violent offenses	1,501	88.4	97.0	8.6
Murder	81	96.3	100.0	3.7
Negligent manslaughter	30	50.0	100.0	50.0
Assault	261	69.0	82.8	13.8
Robbery	983	93.6	100.0	6.4
Rape	68	91.2	100.0	8.8
Other sex offenses	10	80.0	100.0	20.0
Kidnapping	68	94.1	100.0	5.9
Property offenses	2,701	56.3	86.7	30.5
Fraudulent property offenses	2,094	51.0	85.0	34.0
Embezzlement	945	35.7	78.7	43.1
Fraud	749	62.8	90.3	27.5
Forgery	228	60.1	86.8	26.8
Counterfeiting	172	72.1	94.2	22.1
Other property offenses	607	74.5	92.8	18.3
Burglary	163	80.4	100.0	19.6
Larceny	177	64.4	82.5	18.1
Motor vehicle theft	210	77.6	94.8	17.1
Transportation of stolen property	51	80.4	96.1	15.7
Other property	6	50.0	100.0	50.0
Drug offenses	1,823	85.6	98.5	12.9
Possession	156	66.7	91.0	24.4
Trafficking	1,667	87.3	99.2	11.9
Public order offenses	923	68.7	89.1	20.4
Weapons	335	72.2	91.3	19.1
Immigration offenses	263	72.6	81.7	9.1
Tax law violations	237	60.3	92.8	32.5
Bribery	8	25.0	87.5	62.5
Racketeering and extortion	74	75.7	100.0	24.3

Table 11.4

**Comparing Imprisonment Rates for White, Black, and Hispanic Offenders,
in Actual Sentences Imposed and in Simulated Guideline Sentences
(October 1, 1984 - September 30, 1985)**

<u>Primary Offense of Conviction</u>	<u>Actual Sentences Imposed</u>			<u>Simulated Guidelines Sentences</u>			<u>Spread*</u>	
	<u>White</u>	<u>Black</u>	<u>Hispanic</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>	<u>Actual</u>	<u>Simulated</u>
All Offenses	70.2%	71.8%	80.6%	92.2%	90.8%	94.5%	10.4%	3.6%
Violent offenses								
Murder	89.0	91.9	86.3	96.3	97.7	97.4	5.6	1.4
Negligent manslaughter	95.5	100.0	100.0	100.0	100.0	100.0	4.5	0.0
Assault	75.0	---	0.0	100.0	---	100.0	75.0	0.0
Robbery	56.0	71.2	82.1	65.3	86.2	89.3	26.1	24.0
Rape	93.0	96.2	87.7	100.0	100.0	100.0	8.5	0.0
Other sex offenses	91.7	94.1	100.0	100.0	100.0	100.0	8.3	0.0
Kidnapping	83.3	66.7	---	100.0	100.0	---	16.7	0.0
Property offenses								
Fraudulent property offenses	57.1	55.6	56.5	88.5	83.6	85.7	1.6	4.9
Embezzlement	52.4	48.9	49.7	87.5	80.6	82.7	3.5	6.9
Fraud	36.3	35.4	30.3	80.3	74.7	77.3	6.0	5.5
Forgery	63.6	64.1	51.5	92.9	87.9	82.4	12.6	10.6
Counterfeiting	65.4	49.4	81.3	92.3	79.7	81.3	31.9	12.6
Other property offenses	71.0	75.0	72.4	95.3	90.6	96.6	4.0	5.9
Burglary	74.7	76.1	84.1	92.2	92.5	97.7	9.4	5.6
Larceny	86.2	81.0	94.4	100.0	100.0	100.0	13.5	0.0
Motor vehicle theft	62.9	65.2	75.0	79.8	83.3	93.8	12.1	14.0
Transportation of stolen property	73.9	85.5	87.5	94.0	95.2	100.0	13.6	6.0
Other property	85.4	62.5	100.0	---	87.5	100.0	37.5	12.5
Drug offenses								
Possession	85.2	81.8	87.8	97.7	98.0	99.7	6.0	2.0
Trafficking	60.3	44.0	82.8	87.3	84.0	96.9	38.8	12.9
Public order offenses								
Weapons	87.5	84.3	88.4	98.7	99.0	100.0	4.1	1.3
Immigration offenses	63.4	67.0	81.2	90.0	87.2	87.8	17.8	2.8
Tax law violations	28.6	---	0.0	85.7	---	100.0	28.6	14.3
Bribery	47.4	47.1	80.8	60.5	76.5	86.7	33.7	26.2
Racketeering and extortion	59.9	58.3	---	93.2	83.3	100.0	1.6	16.7

* Spread represents the difference between the highest percentage imprisoned and the lowest percentage imprisoned among each of the three racial categories for each primary offense of conviction.

The effects of guideline sentencing on difference in length of imprisonment sentences are shown in Tables 11.5 and 11.6. Because the guidelines recommend sentences that do not include parole supervision time, the simulated guideline sentences for nearly all crime categories are shorter than the sentences actually imposed during the October 1984-September 1985 period. (The significant exception was for drug offenses.) Consequently, rather than focussing on the differences between the actual and simulated sentences, the useful comparison is between the *relative* length of sentences imposed on whites and blacks, and on whites and Hispanics, in the actual pre-guidelines cases and in the simulated guideline sentences, considered separately. Table 11.6 therefore shows the percentage difference in sentence length between sentences actually imposed and simulated guideline sentences, for blacks relative to whites, and for Hispanics relative to whites.

Sentences actually imposed on all black offenders were 12% longer, on average, than sentences imposed on whites. In the simulated guidelines scenario, the average difference would have diminished to 5%, and whites would have had the longer sentences. For some types of crimes, the difference in sentences given to whites and blacks would have remained about the same. For others (e.g., weapons, embezzlement, robbery, murder, tax law violations, motor vehicle theft), the differences would have been smaller. For some others (fraud, larceny, drug trafficking, assault, and immigration offenses), the differences would have been larger under the guidelines.

The differences between sentences imposed on whites and Hispanics would have narrowed substantially had guidelines been in existence and been followed with mid-range sentences. Actual sentences imposed on Hispanics during this period were 34% shorter than those given to whites, on average. In the simulation, the difference evaporated, leaving Hispanics slightly longer sentences (2% longer, on average). The offense categories in which changes in the white/Hispanic difference were most dramatic included robbery, larceny, immigration offenses, and assault. Interestingly, there would have been little change in sentences imposed on whites and Hispanics for drug trafficking. The actual sentences imposed on Hispanics were 34% shorter than those imposed on whites, and this would have changed only slightly under guidelines, to 37% shorter.

Did Differences in Guideline Ranges in 1989-90 Parallel Differences in Sentences Given to Whites, Blacks, and Hispanics?

Because we did not find evidence that the guidelines themselves disadvantaged blacks or Hispanics, we explored the possibility that the growing difference in sentencing stemmed from judges' uneven compliance with the guidelines. We therefore examined how much of the racial/ethnic differences in sentencing could be attributed to judges following or evading the constraints of the guidelines. To

Table 11.5

**Average Length of Actual Prison Sentence Imposed
by Race/Ethnicity of Offender
(October 1, 1984 - September 30, 1985)**

<u>Primary offense of conviction</u>	Actual Sentence (months)			Simulated Guideline Sentence (months)		
	<u>Black</u>	<u>White</u>	<u>Hispanic</u>	<u>Black</u>	<u>White</u>	<u>Hispanic</u>
All offenses	88.0	78.8	51.8	51.2	53.7	55.0
Violent offenses						
Murder	156.1	148.3	101.4	88.9	86.8	79.2
Negligent manslaughter	273.3	352.9	288.0	241.7	271.4	198.5
Assault	32.0	—	—	71.9	26.2	41.2
Robbery	53.5	36.5	43.7	39.6	83.8	85.4
Rape	157.1	147.7	108.4	85.3	93.9	—
Other sex offenses	203.6	128.7	240.0	138.2	119.8	124.5
Kidnapping	138.0	103.2	—	124.3	96.9	—
Property offenses						
Fraudulent offenses	39.3	43.9	36.7	18.3	20.8	18.4
Embezzlement	28.6	35.2	28.2	12.3	17.0	13.0
Fraud	15.5	24.2	16.8	8.1	11.9	10.2
Forgery	35.9	36.0	26.1	15.3	19.8	14.2
Counterfeiting	38.4	54.9	44.9	17.1	22.3	15.0
Other offenses	20.2	38.3	32.3	15.6	20.5	14.6
Burglary	60.2	66.7	57.1	34.2	34.2	37.3
Larceny	100.1	106.1	73.0	55.7	51.8	41.1
Motor vehicle theft	42.3	54.6	36.8	22.3	33.6	39.8
Transportation of stolen property	39.5	49.5	56.6	23.7	21.7	25.1
Other property	35.2	75.3	36.0	28.9	47.7	46.0
Drug offenses						
Possession	69.6	81.4	55.4	66.6	107.9	75.1
Trafficking	11.3	38.0	52.0	34.9	76.9	125.5
Public order offenses						
Weapons	71.6	84.2	55.7	68.4	110.4	69.6
Immigration offenses	57.1	40.8	27.1	33.5	22.7	17.1
Tax law violations	39.4	50.5	53.8	22.6	19.6	18.2
Bribery	17.3	15.8	17.1	12.9	8.5	13.1
Racketeering and extortion	48.6	20.9	50.0	19.0	16.6	25.0
	—	3.5	—	—	12.7	5.0

Table 11.6

**Comparing Racial/Ethnic Differences in Length of Actual Sentences Imposed
and Guideline Sentences (Assuming Guidelines Only)
(October 1, 1984 - September 30, 1985)**

<u>Primary offense of conviction</u>	<u>Percentage Difference in Sentence Length</u>			
	<u>Blacks Relative to Whites</u>		<u>Hispanics Relative to Whites</u>	
	<u>Actual Sentences</u>	<u>Simulated Guidelines</u>	<u>Actual Sentences</u>	<u>Simulated Guidelines</u>
All offenses	12 %	-5 %	-34 %	2 %
Violent offenses	5	2	-32	-9
Murder	-23	-11	-18	-27
Negligent manslaughter	--	--	--	-71
Assault	47	51	20	58
Robbery	06	2	-27	2
Rape	58	47	86	33
Other sex offenses	34	4	--	--
Kidnapping	45	36	-37	3
Property offenses	-11	-12	-16	-11
Fraudulent offenses	-19	-27	-20	-24
Embezzlement	-36	-32	-31	-15
Fraud	0	-23	-27	-29
Forgery	-30	-24	-18	-33
Counterfeiting	-21	-24	-16	-29
Other offenses	-10	0	-14	9
Burglary	-6	7	-31	-21
Larceny	-22	-33	-33	19
Motor vehicle theft	-20	9	14	16
Transportation of stolen property	-53	-39	-52	-4
Other property	167	-10	--	80
Drug offenses	-15	-38	-32	-30
Possession	-70	-55	37	63
Trafficking	-15	-38	-34	-37
Public order offenses	40	48	-34	-24
Weapons	-22	15	7	-7
Immigration offenses	9	52	8	55
Tax law violations	133	14	140	50
Bribery	--	--	--	-61
Racketeering and extortion	68	31	51	17

explore this, guideline ranges were computed for offenders sentenced between January 20, 1989 and June 30, 1990, who were subject to the Sentencing Reform Act of 1984. All of the offenders studied were convicted of one of the crimes we have analyzed in earlier chapters: bank robbery, cocaine trafficking, weapons offenses, fraud, larceny, or embezzlement. These ranges were then compared with the sentences actually imposed on each offender.

Because the sentencing guidelines specify a range for the length of permitted imprisonment sentences, we simulated what would have happened if judges had always imposed imprisonment terms that were identical to the midpoint of the guideline range prescribed for each offender. This simulated conditions of perfect compliance with the guidelines, allowing no within-range variation from case to case or judge to judge. Because we were not able to identify departures in actual sentencing that were considered legitimate by the guidelines (for providing "substantial assistance" to prosecutors, for example), we made no attempt to simulate such out-of-range sentences. Instead, we assigned the simulated sentence to be the midrange of the guideline in all cases. We then compared these simulated sentences with the actual sentences imposed, separately for whites, blacks, and Hispanics.

Comparing the sentences actually imposed with these simulated guideline sentences indicates that the observed differences among whites, blacks, and Hispanics would either have diminished somewhat or would have been essentially unchanged if judges had followed the guidelines mechanically in all instances (Table 11.7). For crack and powdered cocaine trafficking, the black/white differences would have been slightly wider than they were in actuality.

This simulation indicates that there was a close correspondence between guideline ranges and sentences imposed. It suggests also that a large proportion of the difference between black and white sentences could be attributed to the factors explicitly considered when computing in the guidelines. The remaining small differences could have resulted from other factors influencing the judges' decision making.³

Changing the Guidelines for Crack Traffickers to Accommodate Mandatory Minimum Penalties

The simulation provides no evidence of a general tendency in the guidelines' decision rules to disadvantage blacks or Hispanics, relative to whites, but we did not attempt to simulate the guidelines' effect for one important offense: crack trafficking. As discussed above, the distinction between crack

³ There may also have been factors legitimately considered that were not captured in the data we simulated. The most obvious is whether or not the defendant received an out-of-range sentence as a reward for substantial assistance to prosecutors in building cases against others.

Table 11.7

**Comparing Sentences Actually Imposed to Simulated Guideline Midpoint Sentences,
By Offender's Race/Ethnicity and Crime of Conviction
(Guideline Cases: January 20 1989-June 30 1990)**

	Length of Actual Sentence Imposed ^a (Months)			Length of Simulated Sentence ^b (Months)		
	<u>White</u>	<u>Black</u>	<u>Hispanic</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
Bank Robbery	91.0	106.0	91.8	78.9	89.3	73.3
Embezzlement	11.8	6.9	10.8	10.3	7.7	8.8
Fraud	17.5	16.2	7.3	17.0	16.5	7.3
Larceny	22.9	18.6	16.4	17.8	15.2	17.1
Cocaine distribution	74.0	99.2	95.6	85.6	108.8	109.7
Crack	130.0	138.0	159.3	179.3	159.1	200.0
Powdered Cocaine	71.0	72.5	94.4	80.4	75.8	106.6
Weapons	39.6	60.4	44.9	24.0	36.5	23.4

	Actual Sentences Imposed		Simulated Guideline Sentences	
	Blacks relative to Whites	Hispanics relative to Whites	Blacks relative to Whites	Hispanics relative to Whites
Bank Robbery	16.5%	0.9%	13.2%	-7.1%
Embezzlement	-41.5	-8.5	-25.2	-14.6
Fraud	-7.4	-58.3	-2.9	-57.1
Larceny	-18.8	-28.4	-14.6	-3.9
Cocaine distribution	34.1	29.2	27.1	28.2
Crack	6.2	22.5	-11.3	11.5
Powdered Cocaine	2.1	33.0	-5.8	32.6
Weapons	52.5	13.4	52.1	-2.5

Notes:

- ^a Means may differ from other tables in this report because length of sentence was computed here only for those offenders whose records had non-missing data on guideline ranges.
- ^b Simulated sentences are identical to the midpoint of guideline range.

and powdered cocaine was of no legal significance prior to the passage of the Anti-Drug Abuse Act of 1986, and the data files created for those offenders sentenced in 1984-1985 did not record this distinction. Once Congress decided to punish crack trafficking more severely by creating mandatory minimum sentences for those offenders, however, the Sentencing Commission accommodated this policy. Both these mandatory minimum penalties and the commission's method of incorporating them into the guidelines account for a substantial part of the differences in lengths of imprisonment sentences given in guidelines cases.

In 1984 and again in 1986, Congress passed laws that mandated minimum imprisonment terms for persons convicted of drug offenses and violent crimes and who had serious criminal records.⁴ In the Anti-Drug Abuse Act of 1986 Congress drew a distinction, for the first time, between crack from all other forms of cocaine. The Act established five-year mandatory minimum sentences for persons convicted of manufacturing, distributing, dispensing, or possessing with intent to distribute five or more grams of a mixture containing cocaine base ("crack"), or at least 10 years for 50 grams or more. If the offender had been convicted previously of a drug charge, the minimum terms were doubled, to 10 and 20 years, respectively. If death or serious bodily injury resulted from the use of such a substance, the minimum prison term was to be no less than 20 years. These penalties were far more severe than for persons convicted of trafficking in powdered cocaine. Indeed, in fixing the five-and ten-year minima, Congress established the same penalty for 100 times the amount of powdered cocaine (which was also subject to mandatory minimum sentences).

The Sentencing Commission took these 5, 10, and 20 year minima and created a range of guidelines around them. For example, for a first offender, Congress established that selling 5 grams of crack cocaine required at least a five-year sentence. The Sentencing Commission translated this as indicating a base offense level of 26, the range for which is 63 to 78 months. Seeking to maintain the principle of proportionality that was adopted to structure the design of the guidelines, the Sentencing Commission took Congress' decisions regarding the 5 and 50 gram plateaus as fixed points, and established guideline ranges for amounts above and below 5 grams. Additional categories of drug weight were created with breakpoints at 20 grams, 35 grams, and six other amounts above 50 grams. At each level, the guideline sentence is the same as that for 100 times the weight of cocaine powder. The result was that the guidelines prescribe at the high end between 188-235 months (or fifteen and a half to

⁴ Public Law 98-473 (1984), which was followed by Public Law 99-308 (1986), Public Law 99-570 (1986), and Public Law 100-690 (1986).

nineteen and a half years) for a first offender selling 500 grams of crack or more. This range was established not by Congress but by the Sentencing Commission, and was built into the guidelines.

As discussed in Chapter 5, 83% of the offenders prosecuted in the Federal district courts were black. Because crack was punished so much more severely for the same amounts of powdered cocaine, the guidelines prescribed longer imprisonment terms for them than for white cocaine traffickers, on average. Judges generally complied with the guidelines, and the end result is that blacks averaged longer sentences. Had this distinction between crack and powdered cocaine not been made in the law, and by the Sentencing Commission when designing the guidelines, the average sentences for blacks (and Hispanics) would have been shorter than those given to whites.

Table 11.8 shows how sentences of cocaine traffickers would have differed in guideline cases under two different scenarios. The first assumes that Congress and the Sentencing Commission did not distinguish crack from all other types of cocaine. In this scenario, the guidelines would rank equivalent amounts of crack and powder identically. If judges had followed the guidelines uniformly, sentences imposed on black crack traffickers would have been 45 months in prison rather than the 140 month average they actually received. Moreover, average sentences imposed on black cocaine traffickers would have been 63 months, compared to 70 months for whites and 93 months for Hispanics. That is, sentences for blacks would have been *10% shorter* than sentences for whites, rather than 30% longer for cocaine trafficking.

This change would have halved the difference in sentences actually imposed on all white and all black offenders. Whereas all blacks convicted in Federal district court actually received sentences averaging 41% longer than whites', the difference would have been 22% if crack and powdered cocaine were punished identically.

Another possibility, shown in the second scenario, is that the mandatory minimum sentences for crack cocaine exist, exactly as prescribed in the Anti-Drug Abuse Act of 1986, but that the Sentencing Commission did nothing to enhance penalties above the mandatory minima. That is, all offenders convicted of trafficking in 50 grams or more of crack *all* would receive 10 years in prison, and no more, unless they had been convicted previously of a drug charge, in which case they would receive exactly 20 years. Those convicted of trafficking in five or more grams, but less than 50, all would receive five years in prison, or ten for those previously convicted of drug crimes. For amounts less than 5 grams, the imposed sentence was unchanged. This scenario is, therefore, one that conservatively estimates the impact of a policy in which sentencing of crack is governed strictly by statutory law (the Anti-Drug Abuse Act of 1986), and not at all by the guidelines as implemented.

Table 11.8
Simulated Sentencing of Crack Traffickers:
Effects of Alternative Legal Rules

	Scenario 1:						Scenario 2:		
	<u>Actual Sentence Imposed</u>			<u>Crack and powder not differentiated</u>			Crack sentenced strictly according to statutory law		
	<u>White</u>	<u>Black</u>	<u>Hispanic</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>	<u>White</u>	<u>Black</u>	<u>Hispanic</u>
Crack									
mean sentence number	130 112	140 853	162 72	52 113	45 862	64 72	101 112	99 853	108 72
Powder									
mean sentence number	71 2276	73 1625	95 1759	71 2276	73 1625	95 1759	71 2276	73 1625	95 1759
Combined Crack and Powder									
mean sentence number	74 2388	96 2487	97 1831	70 2389	63 2487	93 1831	72 2388	80 2478	95 1831
relative to white	100%	130%	131%	100%	90%	133%	100%	111%	131%

NOTES: Includes offenders convicted and sentenced to prison. Excludes 1,165 offenders for whom form of cocaine could not be determined. Numbers of prison sentences vary depending on scenario assumptions.

Scenario 2 assumes that all persons eligible for mandatory minimum sentences under the law because of the drug weight and prior record were given such sentences. No attempt was made to simulate the 20-year enhancement for causing death or serious bodily injury following use of crack—a penalty rarely charged.

Under such conditions, blacks' and Hispanics' sentences for crack trafficking would average 99 and 108 months, respectively, comparable to whites' 101-month average sentences. More importantly, the difference in sentence lengths for traffickers in all types of cocaine combined would have narrowed. Blacks convicted of crack or powdered cocaine would have sentences averaging 11% longer than whites, compared with the 30% difference actually observed.

In summary: the guidelines themselves appear not to have created the larger gap in sentences imposed on whites and blacks in guideline cases, other than the decision rules created to incorporate the mandatory minimum sentencing provisions for crack cocaine. Those sentencing differences observed in other offense categories appear to have resulted from white and black offenders differing from each other in ways relevant to sentencing, rather than from any invidious judicial bias against blacks.

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Appendix 1

Distinguishing Offenders Convicted of Trafficking in Crack and Powdered Cocaine

The data sources used for this study do not indicate if the offender was convicted of trafficking in cocaine base ("crack") as opposed to the more common form of cocaine hydrochloride ("powder"). Because the guidelines penalize offenses involving crack more severely, we sought to distinguish offenders charged with this crime from those charged with trafficking in powder. This was only possible for convicted offenders whose most serious charges were for trafficking in any type of cocaine and who were subject to the Sentencing Reform Act of 1984. Our computer program proceeded as follows. First, offenders subject to sentencing guidelines were selected using information in FPSSIS. Second, offenders convicted of either cocaine or heroin trafficking were identified in the FPSSIS files by a four-digit code that the Administrative Office of the U.S. Courts uses to classify the most serious crime for which offenders were convicted. (These codes combine heroin offenses with cocaine offenses during the data period examined here.) Using these codes, we eliminated persons convicted of simple possession and other drug crimes. For our purposes, we considered a "trafficker" as any person whose 4-digit code indicated a conviction for illegal manufacturing, importation, or distribution of the drug.

The third step involved distinguishing offenders convicted of cocaine as opposed to heroin trafficking. To identify the former, we analyzed separate data items that reported the weight of cocaine and the weight of opiates. The records for some offenders showed weights for both cocaine and opiates. Although we could have developed decision rules to determine which offense was considered the most serious, we chose instead to leave the type of drug "unknown." We sought to construct a study population convicted of crimes that were as similar to one another as possible, and we reasoned that offenders convicted of trafficking in both types of drugs might be punished differently than persons convicted of only cocaine offenses.

To distinguish crack from powdered cocaine, we exploited the fact that trafficking in small amounts of crack is scored as having the same base offense level (one of the two factors used in computing the guidelines sentence) as trafficking in 100 times as much powder. For example, selling 0.5 to 0.99 grams of crack is assigned a base offense level of 16, the same as selling 50 to 99.9 grams of powdered cocaine. Pairing the offense level computed for each offender with the weight of the cocaine involved enabled us to determine, by inference, if the cocaine had been in crack or powdered form. For example, if the amount of cocaine was reported as .75 grams and the base offense level was 16, we concluded tentatively that the drug was crack.

This simple comparison of offense levels and drug weights did not always yield an unambiguous identification, however. Offense levels can be adjusted upwards or downwards by the courts because of certain other characteristics. In drug distribution cases, the base offense level depends upon the amount of drug involved unless other conditions exist.

(1) If the defendant "clearly demonstrates a recognition and affirmative acceptance of personal responsibility for his criminal conduct," the offense level can be reduced two levels. This would result in the computation of a shorter guideline sentence. In practice, pleading guilty is seen as an indicator of accepting responsibility, although this two-level "discount" cannot be awarded as a matter of right upon pleading guilty (U.S.S.G. § 3D1.1).

(2) If a dangerous weapon was possessed during the commission of the offense, the base offense level is increased two levels (U.S.S.G. § 2D1.1).

(3) If the defendant was convicted under 21 U.S.C. § 841(b)(1)(A), (b)(1)(B), (b)(1)(C), or 21 U.S.C. § 960(b)(1), (b)(2), or (b)(3), and the offense of conviction establishes that death or serious bodily injury resulted from the use of the substance and that the defendant committed the offense after one or more prior convictions for a similar offense, the offense level is fixed at 43 (U.S.S.G. § 2D1.1).

(4) If the defendant is convicted under 21 U.S.C. § 841(b)(1)(A), (b)(1)(B), (b)(1)(C), or 21 U.S.C. § 960(b)(1), (b)(2), or (b)(3), and the offense of conviction establishes death or serious bodily injury resulted from the use of the substance, the offense level is fixed at whichever is greater: 38, or the offense level that would be indicated by the weight of the drug alone (U.S.S.G. § 2D1.1).

(5) If the defendant is convicted of violating 21 U.S.C. § 960(a) under circumstances in which (a) an aircraft other than a regularly scheduled commercial air carrier was used to import the controlled substance, or (b) the defendant acted as a pilot, copilot, captain, navigator, flight officer, or any other operation officer aboard any craft or vessel carrying a controlled substance, the offense level is increased by two levels, unless the resulting offense level is less than 26. In that latter event, the level is increased to 26.

(6) Further upward adjustments in offense levels can be made for drug crimes involving pregnant females or underage individuals, for committing drug crimes near "protected locations" (such as schools), for being identified as convicted of trafficking as part of a continuing criminal enterprise, or for endangering human life while illegally manufacturing a controlled substance (U.S.S.G. § 2D1.2, 2D1.5, 2D1.10).

(7) If offenders were convicted of multiple counts involving crimes other than drug law offenses, the guidelines provide a number of rules whereby the offense level can be increased as many as five levels. This results in a longer guideline sentencing range (U.S.S.G. § 3D1.1 - 3D1.5).

In summary: Offenders convicted of cocaine trafficking could have their offense levels reduced a maximum of two levels or increased a maximum of five levels, depending upon these enumerated conditions.

The next step was to create a matrix formed by listing on the horizontal axis the categories of weight (in grams) that are relevant to computing offense levels for crack and powder and the offense

levels, from 1 to 43, on the vertical axis (See Figure A-1). This matrix shows all expected combinations of offense levels and weight ranges of cocaine. Following the Drug Quantity Table in the guidelines manual (U.S.S.G. § 2D1.1(c)), cells corresponding to each expected combination of drug weight and offense level for trafficking in crack were flagged. The same was done for cells that correspond to expected combinations of drug weight and offense levels for trafficking in powdered cocaine. Ranges were established below and above these cells to indicate the maximum reductions or increases that could have been made for the various reasons discussed above. This matrix thus displayed two distinct zones: one zone indicating where the offense levels for all crack cocaine trafficking cases could plausibly be found at each amount of drug involved, and a second for all powdered cocaine trafficking cases.

All Federal offenders convicted of trafficking in cocaine under the Sentencing Reform Act of 1984, whose cases were disposed after January 19, 1989, or before July 1, 1990, were categorized by their recorded offense levels and the reported weight of drugs involved. That is, all were distributed into the cells of the constructed matrix. Those falling in the zone demarcating crack were assumed to have crack cases. Those falling in the zone for powdered cocaine were assumed to be convicted of trafficking in powder.

For the smallest and largest amounts of crack or powdered cocaine, the zones overlapped. Offenders who were categorized into these cells were not classified as probable crack or probable powder traffickers. Certain others fell outside of either zone. Of these cases that could not be assigned unambiguously to the demarcated crack or powder category, and which involved weights greater than those in the powder zone, we assumed that the drug involved was likely to be powdered cocaine if the reported weight was 25 grams or more. Because offense levels are computed by probation officers in advance of sentencing, and because the decision rules followed are complex, we assumed that the unexpected offense levels computed for large-quantity cocaine cases were in error.

This computation resulted in identifying 1,053 offenders charged with trafficking in crack, and 5,944 with powdered cocaine. A smaller number (528) had combinations of offense level and drug weights that fell outside of either distinct zone, and could not be unambiguously identified, and 732 had FPSSIS records reporting drug amounts in units that could not be converted to grams (e.g., "small scale amounts"). In summary: of the categorizable offenders, we inferred that 15% were probably convicted of trafficking in crack cocaine.

Figure A-1
Distinguishing crack cocaine from powdered cocaine
weight of cocaine (grams)

Key: L = LOW, Cr = CRACK, M = MIDDLE, pw = POWDER, H = HIGH
 L, M, H = Unexpected combination of weight and offense level;
 cannot infer type of cocaine.

		GRAM WEIGHTS																								
		BASE OFFENSE LEVEL																								
		< 1	1	2	3	4	5	20	25	35	50	100	150	200	300	400	500	1.5K	2K	3.5K	5K	15K	50K	150K	500K	1,500K
1	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
2	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
3	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
4	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
5	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
6	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
7	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
8	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
9	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
10	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
11	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
12	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
13	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
14	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
15	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
16	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
17	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
18	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
19	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
20	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
21	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
22	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
23	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
24	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
25	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
26	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
27	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
28	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
29	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
30	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
31	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
32	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
33	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
34	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
35	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
36	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
37	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
38	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
39	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
40	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
41	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
42	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	
43	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	

Appendix 2

Expanded Models of Imprisonment/Non-Imprisonment and Length of Imprisonment Sentences

Table A-5.9
Imprisonment/Not Imprisonment Sentences for Cocaine Powder: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>p(B=0)</u>	<u>exp(B)</u>
Offense characteristics		
MAJ_OFF	.1917	
COCAIN_L	.0000	1.3028
NOWEAPON	.0323	.4818
GUN	.7641	.0029
USED	.7932	3035.6860
THREAT	.8040	126.6258
SEC_GUN	.5606	55.8412
MULTIPLE	.0030	3.7082
ONGOING(1)	.7179	1.0343
ON_GO	.0087	2.0356
ROLE		.0000
Prior record		
CONVADT	.5808	1.0463
CONFLTYN	.3354	.8368
CONF15Y	.7677	1.0970
CONFSYRN	.8160	1.1265
THISOFF	.0966	1.5305
MONFREE	.1264	.9875
PANDP	.9290	1.0306
ANY_REV	.2509	1.7310
Plea or trial		
METHOD	.0320	
BARGAIN	.4615	.8669
Other sources of variation		
AGE1	.2845	.9905
MALE	.0000	4.2727
EMPLBEG	.0224	.9634
DOPER	.1236	1.3206
CIRCUIT	.0001	
RACE	.0012	
BLACK	.3456	1.2062
HISPANIC	.0002	2.5090
Constant	.0200	

	Chi-Square	df	Significance
-2 Log Likelihood	1152.70	4701	1.0000
Model Chi-Square	454.97	42	.0000
Goodness of Fit	8868.75	4701	.0000

Table A-5.10
Length of Prison Sentences for Cocaine Powder: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
Offense characteristics			
COCAIN_L	.1946	21%	.0000
MAJ6701	-.1677	-15%	.0474
MAJ6702	-.1819	-17%	.0455
MAND_MI2	.1887	21%	.0000
NOWEAPON	-.1925	-18%	.0000
GUN	-.2378	-21%	.0946
THREAT	.3395	40%	.0094
USED	.3798	46%	.0534
SEC_GUN	.2682	31%	.0000
MULTIPLE	.2094	23%	.0000
ONGOING	-.0208	-2%	.2958
ON_GO	.0811	8%	.0002
Role in the offense			
MORECULP	.1758	19%	.0000
LESSCULP	-.2146	-19%	.0000
SAMECULP	.0177	2%	.4542
Offender's prior record			
CONVADT	.0042	0%	.5130
CONFLYN	.0472	5%	.0028
CONF15Y	.0888	9%	.0000
CONF5YRN	.0765	8%	.0019
THISOFF	.0735	8%	.0000
MONFREE	-.0011	0%	.0273
PANDP	.1618	18%	.0000
ANY_REV	.0459	5%	.1410
Plea or trial			
LATEPLEA	-.0440	-4%	.0198
TRIAL	.3806	46%	.0000
MISSMETH	-.10406	-65%	.0000
BARGAIN	-.0519	-5%	.0050
Other offender characteristics			
AGE1	.0018	0%	.0302
MALE	.1692	18%	.0000
EMPLBEG	-.0056	-1%	.0001
DOPER	-.0477	-5%	.0072
Circuit			
CIR01	-.0422	-4%	.3006
CIR02	-.1181	-11%	.0001
CIR03	-.0767	-7%	.0760
CIR04	.0310	3%	.3467
CIR05	-.0251	-2%	.4242

Table A-5.10, continued
Length of Prison Sentences for Cocaine Powder: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
CIR06	-.1201	-11%	.0003
CIR07	-.0661	-6%	.0639
CIR08	-.0848	-8%	.0220
CIR09	-.0989	-9%	.0005
CIR10	-.1109	-10%	.0101
Race/ethnicity			
BLACK	.0590	6%	.0034
HISPANIC	.0791	8%	.0001
Constant	2.6503	14.16	.0000

R ²	.63
d.f. regression	43
d.f. residual	5547

Table A-5.13
Length of Prison Sentences for Crack Cocaine: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
Offense characteristics			
MAJ6701	-.0649	-6%	.6256
MAJ6702	-.2636	-23%	.2405
COCAIN_L	.1887	21%	.0000
MAND_MI2	.1484	16%	.0000
NOWEAPON	-.1270	-12%	.0010
GUN	.0689	7%	.7466
THREAT	.1522	16%	.4323
USED	-.0912	-9%	.7275
SEC_GUN	.2259	25%	.0023
MULTIPLE	.1546	17%	.0005
ONGOING	.0651	7%	.0966
ON_GO	.0354	4%	.3679
Role in the offense			
MORECULP	.1122	12%	.0156
LESSCULP	-.1303	-12%	.0132
SAMECULP	.0232	2%	.6016
Offender's prior record			
CONVADT	.0145	1%	.1626
CONFLTYN	.0334	3%	.1144
CONF15Y	.0911	10%	.0001
CONFSYRN	.0506	5%	.0937
THISOFF	.0199	2%	.3213
MONFREE	-.0020	0%	.0097
PANDP	.1132	12%	.0023
ON_BAIL	.1031	11%	.1498
ANY_REV	.0063	1%	.8906
Plea or trial			
LATEPLEA	.0950	10%	.0200
TRIAL	.3556	43%	.0000
MISSMETH	-1.0033	-63%	.0029
BARGAIN	-.1060	-10%	.0058
Other offender characteristics			
AGE1	-.0038	0%	.0363
MALE	.1217	13%	.0216
EMPLBEG	-.0044	0%	.1430
EMPLMO	.0000	0%	.2058
DOPER	-.0723	-7%	.0208
Circuit			
CIR01	.1298	14%	.4169
CIR02	-.0398	-4%	.6226
CIR03	-.1556	-14%	.0457
CIR04	-.0568	-6%	.2324
CIR05	-.0534	-5%	.4195

Table A-5.13, continued
Length of Prison Sentences for Crack Cocaine: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
CIR06	-.2646	-23%	.0000
CIR07	-.0626	-6%	.4851
CIR08	-.1288	-12%	.0475
CIR09	-.2629	-23%	.0000
CIR10	-.1567	-15%	.0512
Race/ethnicity			
BLACK	.2155	24%	.0000
HISPANIC	.0177	2%	.8140
Constant	3.6768	39.52	.0000

R ²	.67
d.f. regression	45
d.f. residual	981

Table A-6.3
Length of Prison Sentences for Bank Robbery: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
Offense characteristics			
L_DOLLAR	.0522	5%	.0000
DOL_DUM	.0666	7%	.3404
NOWEAPON	-.1695	-16%	.0006
GUN	.2044	23%	.0003
THREAT	.0496	5%	.1750
USED	.2097	23%	.0133
NO_INJUR	-.0026	0%	.9775
MULTIPLE	.4146	51%	.0000
ONGOING	.2024	22%	.0000
ON_GO	.1577	17%	.0013
Role in the offense			
MORECULP	-.0397	-4%	.3920
LESSCULP	-.3374	-29%	.0000
SAMECULP	-.0411	-4%	.3602
Offender's prior record			
CONVADT	.0344	4%	.0000
CONFLTYN	-.0077	-1%	.5403
CONF15Y	.0641	7%	.0000
CONF5YRN	.1258	13%	.0000
THISOFF	.0958	10%	.0000
MONFREE	-.0029	0%	.0000
PANDP	.0868	9%	.0088
ON_BAIL	.0096	1%	.9247
ANY_REV	.0705	7%	.0575
Case processing			
LATEPLEA	.0359	4%	.2639
TRIAL	.3385	40%	.0000
PLEAMISS	-1.1642	-69%	.0000
BARGAIN	-.0513	-5%	.1072
Other offender characteristics			
AGE1	-.0006	0%	.7490
MALE	.1927	21%	.0061
EMPLBEG	-.0052	-1%	.1239
EMPLMO	.0000	0%	.9900
DOPER	.0569	6%	.0839
Circuit			
CIR01	-.0884	-8%	.3427
CIR02	-.2319	-21%	.0146
CIR03	.0454	5%	.6092
CIR04	.0381	4%	.5220
CIR05	-.0429	-4%	.5840

Table A-6.3, continued

Length of Prison Sentences for Bank Robbery: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	B	exp(B)-1	p(B=0)
CIR06	.0512	5%	.4062
CIR07	-.0884	-8%	.2744
CIR08	-.0180	-25	.8058
CIR09	-.0822	-8%	.1016
CIR10	.0925	10%	.2154
Race/ethnicity			
BLACK	.0580	6%	.0850
HISPANIC	.0735	8%	.2807
Constant	3.1565	23.49%	.0000

R ²	.61
d.f. regression	43
d.f. residual	1256

Table A-7.3
Imprisonment/Not Imprisonment Sentences for Weapons: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>p(B=0)</u>	<u>exp(B)</u>
Offense characteristics		
MAJ7800	.0646	1.3914
NOWEAPON	.9905	1.0025
GUN	.2581	.3686
THREAT	.0772	4.8615
USED	.1515	3.4104
MULTIPLE	.0002	2.8311
ONGOING(1)	.6154	.9511
ON_GO	.2204	1.5333
ROLE	.0144	
Prior record		
CONVADT	.3157	1.0462
CONFLYN	.6015	1.0645
CONF15Y	.0505	1.2802
CONF5YRN	.1499	1.3148
THISOFF	.0353	1.5789
MONFREE	.0000	.9766
FREEDOM	.0017	
ANY_REV	.3690	1.2425
Plea or trial		
METHOD	.0004	
BARGAIN	.6495	1.0761
Other sources of variation		
MALE	.0110	2.5478
EMPLBEG	.0000	.9134
EMPLMO	.6209	1.0000
DOPER	.0000	2.5586
AGE1	.3037	.9919
CIRCUIT	.1089	
RACE	.0000	
BLACK	.0000	2.3108
HISPANIC	.0011	2.3483
Constant	.0003	

	Chi-Square	df	Significance
-2 Log Likelihood	1129.16	1592	1.0000
Model Chi-Square	544.76	41	.0000
Goodness of Fit	1328.56	1592	1.0000

Table A-7.4
Length of Prison Sentences for Weapons: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
Offense characteristics			
MAND_MI2	1.3414	282%	.0000
MAJ7800	.0808	8%	.1425
NOWEAPON	-.1598	-15%	.0166
GUN	-.0511	-5%	.7725
THREAT	.3734	45%	.0373
USED	.6299	88%	.0003
FELONY	.8710	139%	.0003
MULTIPLE	.2369	27%	.0001
ONGOING	.0179	2%	.7491
ON_GO	.2826	33%	.0006
Role in the offense			
MORECULP	.3450	41%	.0000
LESSCULP	.0862	9%	.3954
SAMECULP	.1449	16%	.0411
Offender's prior record			
CONVADT	.0338	3%	.0021
CONFLYN	.0151	2%	.3919
CONF15Y	.1102	12%	.0000
CONF5YRN	.1564	17%	.0000
THISOFF	.0553	6%	.0174
MONFREE	-.0030		.0008
PANDP	.0806	8%	.1012
ON_BAIL	.0504	5%	.6016
ANY_REV	.0510	5%	.3178
Plea or trial			
LATEPLEA	-.0039		.9361
TRIAL	.7212	106%	.0000
PLEAMISS	-.4695	-37%	.0003
BARGAIN	-.0317	-3%	.4902
Other offender characteristic			
AGE1	-.0053	-1%	.0273
MALE	.1954	22%	.1180
EMPLBEG	-.0073	-1%	.0749
EMPLMO	.0000		.7487
DOPER	.1202	13%	.0046
Circuit			
CIR01	-.4335	-35%	.0027
CIR02	-.2924	-25%	.0197
CIR03	-.2070	-19%	.1543
CIR04	-.4231	-34%	.0000
CIR05	-.1188	-11%	.1196

Table A-7.4, continued
Length of Prison Sentences for Weapons: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
CIR06	-.2166	-19%	.0135
CIR07	-.2405	-21%	.0299
CIR08	-.0522	-5%	.6081
CIR09	-.3134	-27%	.0001
CIR10	-.3101	-27%	.0006
Race/ethnicity			
BLACK	.1479	16%	.0022
HISPANIC	.0584	6%	.3945
Constant	1.6860	5.40%	.0000

R ²	.56
d.f. regression	43
d.f. residual	1469

Table A-8.3
Imprisonment/Not Imprisonment Sentences for Fraud: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>p(B=0)</u>	<u>exp(B)</u>
Offense characteristics		
OFFTYPE	.0077	
L_DOLLAR	.0000	1.3878
DOL_DUM	.1034	.7739
MULTIPLE	.0000	3.4252
FELONY	.0128	1.5717
ONGOING	.6291	.9396
ON_GO	.0000	2.4338
ROLE		.0000
Prior record		
CONVADT	.0005	1.1600
CONFLTYN	.8905	.9836
CONF15Y	.9729	1.0044
CONF5YRN	.8939	1.0368
THISOFF	.0005	1.5838
MONFREE	.0004	.9842
FREEDOM	.0000	
ANY_REV	.0234	1.8012
Plea or trial		
METHOD	.0000	
BARGAIN	.4075	1.0877
Other sources of variation		
MALE	.0000	2.5107
EMPLBEG	.0000	.9471
EMPLMO	.2967	1.0000
DOPER	.0001	1.8518
AGE1	.6071	.9976
CIRCUIT	.0000	
RACE	.0000	
BLACK	.0900	1.2240
HISPANIC	.0000	2.3697
Constant	.0000	

	Chi-Square	df	Significance
-2 Log Likelihood	2697.93	2873	1.0000
Model Chi-Square	1303.67	47	.0000
Goodness of Fit	6671.86	2873	.0000

Table A-8.4
Length of Prison Sentences for Fraud: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
Offense characteristics			
MAJ4600	-.1656	-15%	.0827
MAJ4900	.3691	45%	.0012
MAJ4941	-.3464	-29%	.0001
MAJ4980	-.5342	-41%	.0000
MAJ4700	.0015	0%	.9798
MAJ4995	-.1292	-12%	.0205
MAJ4991	-.2457	-22%	.0003
L_DOLLAR	.1245	13%	.0000
DOL_DUM	-.2836	-25%	.0000
FELONY	.5250	69%	.0000
MULTIPLE	.2227	25%	.0000
ONGOING	.1294	14%	.0149
ON_GO	.2294	26%	.0000
Role in the offense			
MORECULP	.2221	25%	.0000
LESSCULP	-.2221	-20%	.0009
SAMECULP	.0035	0%	.9443
Offender's prior record			
CONVADT	.0372	4%	.0017
CONFLTYN	.0194	2%	.3356
CONF15Y	.0301	3%	.1352
CONF5YRN	.0074	1%	.8547
THISOFF	.0510	5%	.0004
MONFREE	-.0046	0%	.0000
PANDP	.1614	18%	.0009
ON_BAIL	.2460	28%	.0357
ANY_REV	.0878	9%	.1464
Case processing			
LATEPLEA	.0624	6%	.1229
TRIAL	.4171	52%	.0000
PLEAMISS	-.3710	-31%	.0000
BARGAIN	-.0453	-4%	.2229
Other offender characteristics			
AGE1	.0033	0%	.0834
MALE	.1716	19%	.0004
EMPLBEG	-.0196	-2%	.0000
EMPLMO	.0000	0%	.4012
DOPER	.0737	8%	.1412
Circuit			
CIR01	-.5181	-40%	.0000
CIR02	-.2632	-23%	.0006
CIR03	-.2113	-19%	.0293
CIR04	-.1114	-11%	.1469
CIR05	-.0123	-1%	.8586

Table A-8.4, continued

Length of Prison Sentences for Fraud: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
CIR06	-.2563	-23%	.0009
CIR07	-.2748	-24%	.0016
CIR08	-.2835	-25%	.0006
CIR09	-.1463	-14%	.0262
CIR10	-.2848	-25%	.0034
Race/ethnicity			
BLACK	.0321	3%	.4475
HISPANIC	-.0228	-2%	.7308
Constant	.5501	1.73%	.0018

R ²	.53
d.f. regression	46
d.f. residual	1600

Table A-9.3
Imprisonment/Not Imprisonment Sentences for Larceny: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>p(B=0)</u>	<u>exp(B)</u>
Offense characteristics		
OFFTYPE	.0000	
L_DOLLAR	.0000	1.1881
DOL_DUM	.5308	.7958
MULTIPLE	.0000	3.4944
FELONY	.0000	4.7784
ONGOING	.1310	1.2816
ON_GO	.0012	2.1710
ROLE	.0004	
Prior record		
CONVADT	.0020	1.1931
CONFLTYN	.8225	1.0314
CONF15Y	.2981	1.2188
CONF5YRN	.0902	2.2292
THISOFF	.0680	1.1976
MONFREE	.2635	.9943
FREEDOM	.0000	
ANY_REV	.0011	2.4935
Plea or trial		
METHOD	.0000	
PLEA3	.2744	1.1876
Other sources of variation		
MALE	.0002	1.9444
EMPLBEG	.0003	.9431
EMPLMO	.9732	1.0000
DOPER	.0001	1.9803
AGE1	.6930	.9971
CIRCUIT	.0615	
RACE	.0392	
BLACK	.0130	1.4939
HISPANIC	.9708	.9892
Constant	.0000	

	Chi-Square	df	Significance
-2 Log Likelihood	1314.55	1799	1.0000
Model Chi-Square	1176.19	43	.0000
Goodness of Fit	1820.44	1799	.3568

Table A-9.4
Length of Prison Sentences for Larceny: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
Offense characteristics			
MAJ3100	.5653	76%	.0006
MAJ3800	-.2863	-25%	.2039
MAJ3400	-.3643	-31%	.0217
MAJ3300	.1038	11%	.5231
MAJ3200	-.2774	-24%	.0682
L_DOLLAR	.0952	10%	.0000
DOL_DUM	.3759	46%	.0069
FELONY	.6854	98%	.0000
MULTIPLE	.5637	76%	.0000
ONGOING	.1030	11%	.1393
ON_GO	.2844	33%	.0006
Role in the offense			
MORECULP	.1801	20%	.0230
LESSCULP	-.2868	-25%	.0033
SAMECULP	-.0002	0%	.9980
Offender's prior record			
CONVADT	.0115	1%	.5044
CONFLTYN	.0298	3%	.2836
CONF15Y	.0451	5%	.0998
CONF5YRN	.0953	10%	.0115
THISOFF	.0292	3%	.1398
MONFREE	-.0038	0%	.0067
PANDP	.2572	29%	.0004
ON_BAIL	-.1617	-15%	.2870
ANY_REV	.1235	13%	.1238
Case processing			
LATEPLEA	-.0122	-1%	.8513
TRIAL	.2104	23%	.0735
PLEAMISS	-.4580	-37%	.0001
BARGAIN	.0963	10%	.1131
Other offender characteristics			
AGE1	.0065	1%	.0542
MALE	.2968	35%	.0003
EMPLBEG	-.0164	-2%	.0132
EMPLMO	.0001	0%	.0967
DOPER	.2174	24%	.0006
Circuit			
CIR01	-.1817	-17%	.4233
CIR02	-.1072	-10%	.4471
CIR03	-.1028	-10%	.4522
CIR04	-.1701	-16%	.1400
CIR05	.1569	17%	.1444

Table A-9.4, continued
Length of Prison Sentences for Larceny: Expanded Model
(Guideline Cases: January 29, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
CIR06	-.0534	-5%	.6411
CIR07	-.5637	-43%	.0000
CIR08	-.0838	-8%	.5574
CIR09	-.1577	-15%	.1719
CIR10	.2233	25%	.0904
Race/ethnicity			
BLACK	-.0158	-2%	.8084
HISPANIC	.0314	3%	.7854
Constant	.2992	1.35%	.2556

R ²	.58
d.f. regression	44
d.f. residual	705

Table A-10.3
Length of Prison Sentences for Embezzlement: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	<u>B</u>	<u>exp(B)-1</u>	<u>p(B=0)</u>
Offense characteristics			
MAJ4320	.1415	15%	.4480
MAJ4310	.0757	8%	.7009
MAJ4200	.1864	20%	.3197
MAJ4100	.2554	29%	.1134
L_DOLLAR	.1905	21%	.0000
DOL_DUM	-.2252	-20%	.3708
FELONY	.5800	79%	.0009
MULTIPLE	.1053	11%	.4434
ONGOING	-.0412	-4%	.7592
ON_GO	.3426	41%	.0004
Role in the offense			
MORECULP	.3285	39%	.0583
LESSCULP	.1557	17%	.6403
SAMECULP	.2860	33%	.1141
Offender's prior record			
CONVADT	.0346	4%	.4833
CONFLTYN	.0611	6%	.7297
CONF15Y	.0693	7%	.4428
CONF5YRN	.0398	4%	.7425
THISOFF	-.0133	-1%	.8765
MONFREE	-.0061	-1%	.2852
PANDP	.5974	82%	.0015
ON_BAIL	-.1563	-14%	.6818
ANY_REV	-.1599	-15%	.5520
Case processing			
LATEPLEA	-.0247	-2%	.7875
TRIAL	.8068	124%	.0002
PLEAMISS	-.0198	-2%	.9165
BARGAIN	.0768	8%	.4240
Other offender characteristics			
AGE1	.0034	0%	.4848
MALE	.1091	12%	.2704
EMPLBEG	-.0013	0%	.8966
EMPLMO	.0001	0%	.0312
DOPER	.3237	38%	.0077
Circuit			
CIR01	-.7829	-54%	.0116
CIR02	-.8247	-56%	.0007
CIR03	-.7963	-55%	.0031
CIR04	-.5696	-43%	.0188
CIR05	-.3506	-30%	.1432

Table A-10.3, continued
Length of Prison Sentences for Embezzlement: Expanded Model
(Guideline Cases: January 20, 1989 - June 30, 1990)

<u>Variable</u>	B	<u>exp(B)-1</u>	p(B=0)
CIR06	-.4585	-.37%	.0638
CIR07	-.7926	-.55%	.0007
CIR08	-.5104	-.40%	.0212
CIR09	-.1421	-.13%	.4343
CIR10	-.2893	-.25%	.2327
Race/ethnicity			
BLACK	-.2674	-.23%	.0098
HISPANIC	-.2739	-.24%	.1479
Constant	-.1522	.86%	.7854

R ²	.54
d.f. regression	43
d.f. residual	286

Appendix 3

Regressions Based Solely on Recommended Guideline Sentences

The regression analyses in the main text of this report use explanatory variables without regard to whether they described factors that are taken into consideration when calculating guideline offense scores or criminal history scores for the offender in question. These explanatory variables were chosen based on previous research or based on their observed relationship to sentencing and the offender's race/ethnicity, rather than because of their role in guidelines calculations. Furthermore, the independent variables in the regression analyses in Chapters 5 to 11 of the text did not explicitly include offense levels, criminal history scores, or guideline ranges.

Although the variables that are considered to be legitimate sentencing factors in the main text are in fact recognized by the guidelines for at least some offenses, the linear combinations of these variables that appear in the regressions do not necessarily reproduce any calculation that is related to the offender's guideline sentence. Following a suggestion of Joseph Katz, who reviewed an earlier draft of the report, this appendix considers an alternative formulation of the regression analysis that takes legitimate sentencing factors into account only as they are used in calculating guidelines sentences.

In particular, we repeated the regression analyses for incarceration and sentence length decisions for each offense group using only the guidelines' recommended sentencing ranges as covariates (actually, the midpoint of the sentencing range). In effect, each offender's sentence is considered in relation to the midpoint of the applicable guideline range, and the regression analysis tests whether there are any residual differences by race or ethnicity. Tables A-11.1 and A-11.2 summarize the results of these alternative regressions in the first pair of columns and, for comparison, show in the second pair of columns the same summary information for the regressions presented in chapters 5 - 11 of the text.

In nearly all instances, the regressions based only on the guidelines range lead to the same conclusions as the regressions presented in the main body of this report based on a larger number of offender characteristics. In particular, the estimated race/ethnicity effects are similar in magnitude, significance, and direction in most instances. This finding confirms our conclusion that the residual effects of race and ethnicity on sentencing decisions are not brought about by the sentencing guidelines themselves.

Of the seven offense categories modeled, only fraud and embezzlement might be said to show different patterns in the results from the two forms of regression.

Fraud. Both models estimate the odds of imprisonment for black offenders convicted of fraud offenses at 1.2 times the odds for white offenders, but in the regression based on guidelines ranges only, this value is found to be significantly different from 1.0, whereas in the regression based on underlying factors the coefficient is *not* significantly different from 1.0.

Table A-11.1
Comparing Guidelines Regressions of Length of Sentence
With Offense and Offender Characteristics

<u>Models of sentence length</u>	Regressions using guidelines ranges		Regressions using offense and offender characteristics	
	<u>effect size</u>	<u>p-value</u>	<u>effect size</u>	<u>p-value</u>
Cocaine powder trafficking				
Race and ethnicity		<.0001		<.0001
Black	12%	<.0001	7%	.0003
Hispanic	12%	<.0001	10%	<.0001
R ²	.62		.62	
Crack trafficking				
Race and ethnicity		<.0001		<.0001
Black	25%	.0001	24%	<.0001
Hispanic	3%	.7749	4%	.5842
R ²	.54		.64	
Bank robbery				
Race and ethnicity		.1084		.0595
Black	5%	.0371	8%	.0185
Hispanic	8%	.5211	5%	.4995
R ²	.43		.60	
Weapons				
Race and ethnicity		<.0001		.0012
Black	27%	<.0001	19%	.0002
Hispanic	11%	.1424	8%	.2625
R ²	.41		.54	
Fraud				
Race and ethnicity		<.0001		.5983
Black	2%	.6711	3%	.4275
Hispanic	-23%	<.0001	4%	.5731
R ²	.58		.50	
Larceny				
Race and ethnicity		.8730		
Black	-1%	.8069	-7%	.2553
Hispanic	4%	.6970	14%	.2612
R ²	.61		.54	
Embezzlement				
Race and ethnicity		.0130		.0209
Black	-17%	.0202	-24%	.0051
Hispanic	25%	.1575	-10%	.5604
R ²	.54		.46	

Table A-11.2
Comparing Guidelines Regressions of Incarceration Decision
With Offense and Offender Characteristics

<u>Models of the incarceration decision</u>	Regressions using guidelines ranges		Regressions using offense and offender characteristics	
	<u>effect size</u>	<u>p-value</u>	<u>effect size</u>	<u>p-value</u>
Cocaine powder trafficking				
Race and ethnicity		.0001		.0036
Black	1.6670	.0005	1.3846	.0708
Hispanic	2.0013	.0008	2.0915	.0014
Weapons				
Race and ethnicity		<.0001		<.0001
Black	3.1261	<.0001	2.0563	.0001
Hispanic	2.3967	<.0001	1.8969	.0034
Fraud				
Race and ethnicity		<.0001		<.0001
Black	1.2210	<.0001	1.1982	.0946
Hispanic	2.3912	<.0001	2.4324	<.0001
Larceny				
Race and ethnicity		.0002		.0392
Black	1.6871	.0001	1.4939	.0130
Hispanic	1.0618	.8201	.9892	.9708
Embezzlement				
Race and ethnicity		.0105		.0436
Black	1.6230	.0039	1.2784	.1551
Hispanic	1.6196	.1764	2.1680	.0211

Hispanic offenders incarcerated for fraud offenses received average sentences 23% shorter than their white counterparts, adjusted for guidelines alone. However, the additional variables included in the regressions in chapter 8 remove this difference, showing that legitimate sentencing factors other than those explicitly included in guidelines for fraud offenses account for the observed disparity for Hispanic offenders.

Embezzlement. Both equations estimate higher odds of imprisonment for minority embezzlers than for similarly situated whites, but the guidelines model shows a higher differential for black offenders than does the model in chapter 10, and a smaller differential for Hispanic offenders. However, these distinctions are not statistically meaningful in either Table A-11.1 or Table A-11.2. By comparing the standard errors of the race and ethnicity effects, we determined that the effect sizes estimated using the guidelines ranges are not significantly different from those estimated using offense and offender characteristics.

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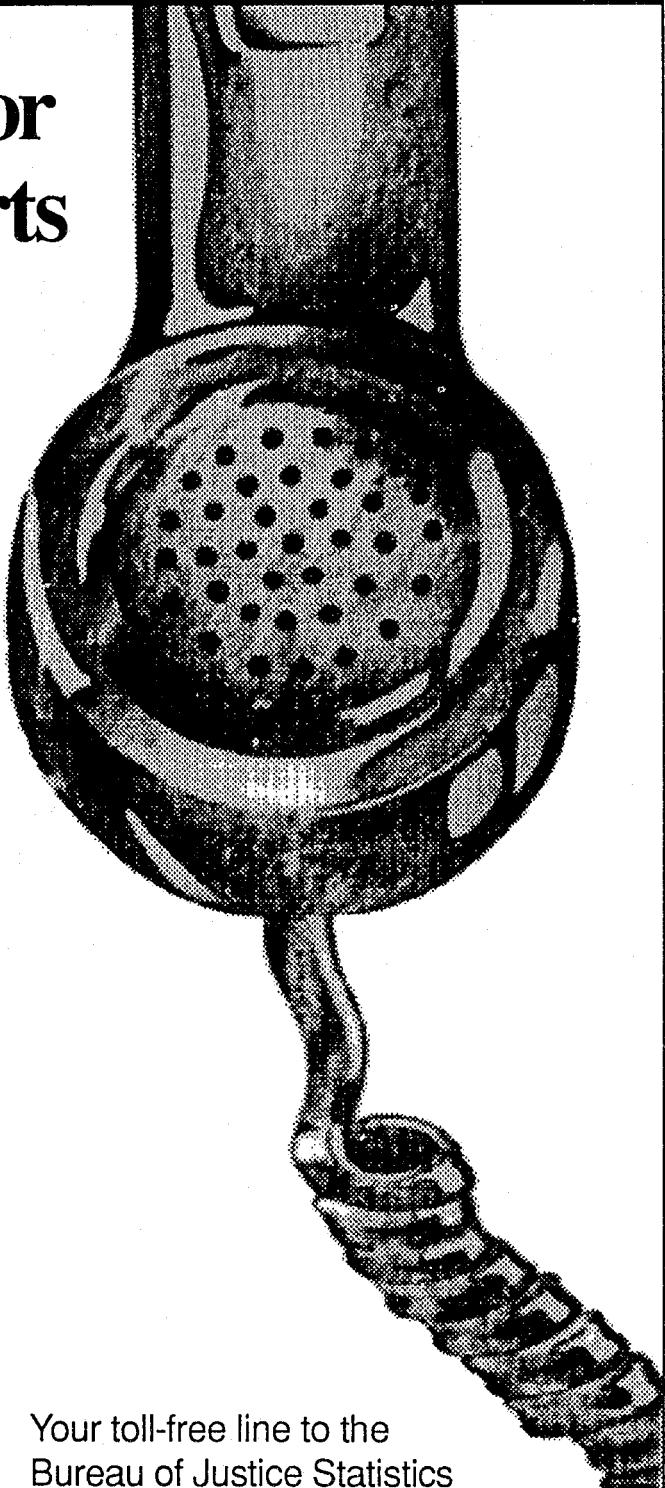
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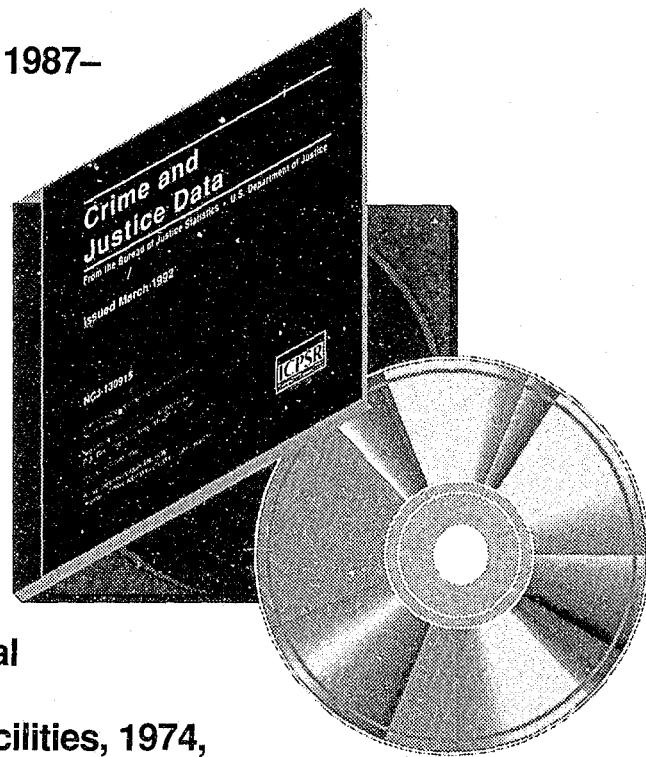
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