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## Racial and Gender Disparities in Prison Sentences: The Effect of District-Level Judicial Demographics

Max M. Schanzenbach  
Northwestern University School of Law

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Racial and Gender Disparities in Prison Sentences: The Effect of District-Level  
Judicial Demographics

Max Schanzenbach<sup>\*</sup>  
Assistant Professor of Law  
Northwestern University School of Law  
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<sup>\*</sup> Northwestern University School of Law, 357 E. Chicago Ave, Chicago, IL, 60611; phone: 312-503-4425; email: [m-schanzenbach@law.northwestern.edu](mailto:m-schanzenbach@law.northwestern.edu). The author thanks Ian Ayres, Ronen Avraham, Andrew Koppelman, James Lindgren, Tracey George, Chris Guthrie, John McGinnis, Kate Stith, and Kim Yuracko for helpful comments and suggestions. Gaurav Mathur provided invaluable research assistance.

## Abstract

Studies of federal prison sentences consistently find unexplained racial and gender disparities in the length of sentence and in the probability of receiving jail time and departures from the Sentencing Guidelines. These disparities disfavor blacks, Hispanics, and men. A problem with interpreting these studies is that the source of the disparities remains unidentified. The gravest concern is that sentencing disparities are the result of prejudice, but other explanations have not been ruled out. For example, wealth and quality of legal counsel are poorly controlled for and are undoubtedly correlated with race. This paper uses the political, racial, and gender composition of the district court bench to estimate the effect of judicial demographics on sentencing and on observed racial and gender disparities. The evidence presented here suggests that judicial demographics have little influence on prison sentences in general, but do impact racial and gender disparities. The findings regarding gender in the case of serious offenses are quite striking: the greater the proportion of female judges in a district, the lower the gender disparity for that district. I interpret this as evidence of a paternalistic bias among male judges that favors women. The racial composition of the bench has mixed effects that are open to different interpretations. The race and gender results suggest, however, that a judge's background affects his or her sentencing decisions. Finally, there is little evidence that the political composition of the district affects sentencing disparities.



Congress passed the Sentencing Reform Act of 1984 in order to reduce “unwarranted sentencing disparities” in federal courts. To this end, the Act created the United States Sentencing Commission, which oversees federal sentencing practices and maintains detailed sentencing guidelines that are binding on the federal judiciary. Despite these efforts, post-Guidelines studies consistently find unexplained racial and gender disparities in sentencing disfavoring men and minorities. A problem with interpreting these studies is that the source of the disparities remains unidentified. The gravest concern is that they are the result of prejudice, but the possibility of unobserved variable bias remains. For example, wealth and quality of legal counsel are poorly controlled for and are undoubtedly correlated with race.

This paper uses the political, racial, and gender composition of the bench at the district level to estimate the effect of judicial demographics on sentencing and on unexplained racial and gender disparities. The paper thus makes two contributions to the literature. First, it addresses whether or not judge characteristics affect judicial decision making. Second, if racial and gender disparities are driven by judge characteristics, the source of sentencing disparities is at least partly the result of bias as opposed to legitimate, unobserved offender traits.<sup>1</sup> A finding that the political, racial, and gender composition of a district does not affect unexplained disparities would be consistent with the argument that disparities are driven by unobserved (and potentially legitimate) considerations. As discussed below, however, this conclusion would not be the only possible interpretation of a non-finding.

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<sup>1</sup> As discussed in greater detail below, it would not be clear who is indulging a preference. For example, if having more black judges on a district bench reduces the black disparity, it would not be clear whether black judges are giving black defendants an underserved break or white judges are being unduly harsh toward them (or unduly lenient to white defendants).

# 1. Judicial Characteristics and Case Outcomes

A large number of studies have addressed judicial characteristics and their effect on the case outcomes. In addition to focusing on the judge's political preferences (often imputed from the party of the appointing president or the appointing president), these studies have examined personal attributes of judges, such as race, religion, age, gender, and prior experience.

A recent survey of the literature regarding the impact of a judge's age on decision-making concluded that "age is of minimal value in predicting how judges will vote, particularly once other variables are considered."<sup>2</sup> For example, in a study with a sample of 2,258 district court cases, Ashenfelter et. al. (1995) could not establish an age effect.<sup>3</sup>

Federal district court studies have not found consistent differences between male and female judges (see George, 2001, for a literature survey; see, e.g., Ashenfelter et al., 1995).<sup>4</sup> Two courts of appeals studies, however, found that female circuit judges were more sympathetic to sex discrimination cases, but found little evidence of other differences (Crowe, 1999; Songer et al. 1994).<sup>5</sup> Steffensmeier and Herbert (1999), in a study of Pennsylvania criminal cases, found that female judges tended to sentence

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<sup>2</sup> Tracey E. George, *Court Fixing*, 43 Arizona L. Rev. 1, 17 (2001).

<sup>3</sup> Orley Ashenfelter et al., *Politics and the Judiciary: The Influence of Judicial Background on Case Outcomes*, 24 J. Legal Stud. 257 (1995).

<sup>4</sup> Ashenfelter at 281; George at 18-21.

<sup>5</sup> Nancy E. Crowe, *The Effects of Judges' Sex and Race on Judicial Decision Making on the United States Courts of Appeals, 1981-1996* (1999) (unpublished Ph.D. Dissertation, University of Chicago); Donald R. Songer et al., *A Reappraisal of Diversification in the Federal Courts: Gender Effects in the Courts of Appeals*, 56 J. Pol. 425, 436 (1994) (finding a weak impact on job discrimination decisions).

offenders more severely, were more likely to incarcerate minorities, and were less likely to incarcerate women.<sup>6</sup>

The literature on judging has not produced consistent findings regarding the impact of a judge's race on his or her decisions. Some of these studies, however, use small numbers of minority judges to identify an effect because they examine circuit court decisions or only a few districts.<sup>7</sup> For some representative studies see Meritt et al. (2001); Ashenfelter et al. (1995); and Gottschall (1983).<sup>8</sup>

Ashenfelter et al. (1995) fail to find any significant impact of appointing president, gender, religion, or race on the probability that civil rights cases filed in district court settle or win. There was evidence, however, that judge characteristics affected certain procedural events such as discovery or referral to a magistrate, although political affiliation again had little explanatory power. Ashenfelter et al. interpret this as evidence that the law largely controls the win and settlement rate of civil rights cases, while judges retain some discretion over procedure.

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<sup>6</sup> Darrell Steffensmeier & Chris Herbert, *Women and Men Policy Makers: Does the Judge's Gender Affect the Sentencing of Criminal Defendants?*, 77 *Social Forces* 1163 (1999).

<sup>7</sup> Ashenfelter et al. caution that their failure to find a measurable impact of a judge's race should be interpreted in light of the few minority judges in the sample. See also Deborah Jones Merritt & James J. Brudney, *Stalking Secret Law: What Predicts Publication in the United States Courts of Appeals*, 54 *Vand. L. Rev.* 1 (2001) (finding no relationship between race and decisions in unpublished unfair labor practices cases); Jon Gottschall, *Carter's Judicial Appointments: The Influence of Affirmative Action and Merit Selection on Voting on the U.S. Courts of Appeals*, 67 *Judicature* 165, 172-73 (1983) (finding some differences between black and white judges in prisoner cases, but little difference in race discrimination cases).

<sup>8</sup> Three studies on the effect of a judge's race on sentencing have found mixed results. However, they involved small sample sizes and examined state court judges in one city. Welch et al. (1988) concluded, based on a northeastern city's criminal court outcomes, that black judges' incarceration decisions were indistinguishable from their white colleagues. Susan Welch et al., *Do Black Judges Make a Difference?*, 32 *Am. J. Pol. Sci.* 126 (1988). Two earlier studies likewise concluded that both white and black judges treated black defendants more harshly (Uhlman 1978, 1979). Thomas Uhlman, *Racial Justice: Black Judges and Defendants in an Urban Trial Court* (1979) (concluding, based on an analysis of an urban criminal court, that black and white judges were both more severe on black defendants as compared to white ones); Thomas Uhlman, *Black Elite Decision Making: The Case of Trial Judges*, 22 *Am. J. Pol. Sci.* 884 (1978). These district and city-level studies involved only a few minority judges. It would be hard to conclude from them that there are no judge race effects whatsoever.

Studies at the appellate level, where judicial discretion is arguably greater, have found consistent ideological effects in certain cases. Cross and Tiller (1998) demonstrate that panel composition affects the outcome and structure of judicial opinions in administrative law cases.<sup>9</sup> Studies have also found that Reagan circuit court appointees are more likely to vote for a conservative outcome than Democratic appointees and previous Republican appointees (Gottschall 1986), while Clinton appointees have been found to be more liberal than Republican appointees but less liberal than Carter appointees (Stidham et al. 1996).<sup>10</sup> Haire et al. (1999) found that ideology affects the outcome of products liability cases on appeal,<sup>11</sup> and Smith and Tiller (2002) found that Republican appointees are more likely to vote against the Environmental Protection Agency than Democratic appointees.<sup>12</sup>

In sum, the literature has consistently established that when judges have discretion, they indulge personal policy preferences to some extent. To my knowledge, no study has examined the effect of political party or judicial characteristics on criminal sentencing at the federal level. As discussed below, Judges have some discretion in sentencing, even under the restrictions of the Guidelines. Sentencing is therefore a ripe area to study the effects of judicial background on decision-making.

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<sup>9</sup> Frank B. Cross & Emerson H. Tiller, *Judicial Partisanship and Obedience to Legal Doctrine: Whistleblowing on the Federal Courts of Appeals*, 107 Yale L.J. 2155 (1998).

<sup>10</sup> Ronald Stidham et al., *The Voting Behavior of President Clinton's Judicial Appointees*, 80 Judicature 16 (1996).

<sup>11</sup> Susan Brodie Haire et al., *Attorney Expertise, Litigant Success, and Judicial Decision-making in the U.S. Courts of Appeals*, 33 L. & Soc'y Rev. 667 (1999).

<sup>12</sup> Joseph Smith & Emerson Tiller, *The Strategy of Judging: Evidence from Administrative Law*, J. Legal Stud 61 (2002).

## 2. The Sentencing Guidelines and Sentencing Disparity

The Sentencing Reform Act of 1984 created the United States Sentencing Commission and charged the Commission to develop sentencing guidelines that would “provide certainty and fairness in meeting the purposes of sentencing, avoiding unwarranted disparities among defendants with similar records who have been found guilty of similar criminal conduct.”<sup>13</sup> Supporters of sentencing reform argued that judicial discretion was at the root of sentencing disparities between judges.<sup>14</sup>

The Sentencing Guidelines promulgated by the Sentencing Commission greatly restrict the sentencing discretion traditionally vested in federal judges. The “recommended” range is determined by the offense level and criminal history category. A district judge, with the aid of the probation officer, uses the Sentencing Commission’s regulations to calculate the defendant’s numeric “offense level.” The crime of conviction sets the base offense level, with points being added based on the use of a gun, mitigating or aggravating role, the amount of drugs involved, the use of sophisticated means in a fraud, whether a financial institution was affected, etc. The defendant’s criminal history category is calculated based on the prior offenses committed by the defendant. These two factors yield a sentencing range expressed in months. All of these determinations are subject to appellate review.

The 2001 Sentencing Guidelines Table is reproduced in Figure 1. Provided the offense level and criminal history have not been miscalculated, a punishment within the

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<sup>13</sup> 28 U.S.C. § 991(b).

<sup>14</sup> For a discussion of the arguments made at the time, see Kate Stith and Jose A. Cabranes, FEAR OF JUDGING: SENTENCING GUIDELINES IN THE FEDERAL COURTS (1998), 38-77, 104, and accompanying notes.



specified range cannot be appealed.<sup>15</sup> If a judge departs from the Guideline range, he must justify the departure by making a statement in open court or in a written opinion. The United States can appeal a downward departure, and the defendant can appeal an upward departure.<sup>16</sup> As can be seen from Figure 1, the sentencing range is roughly 25% of the maximum sentence. The goal of these reforms was to reduce sentencing disparities, but the literature on variance in sentencing is divided as to whether between-judge variation in sentences decreased significantly after the Guidelines.<sup>17</sup>

## **2.1 Racial and gender disparities under the Sentencing Guidelines**

The Guidelines prohibit the consideration of race, sex, and national origin in sentencing decisions.<sup>18</sup> However, studies of sentencing disparities consistently find unexplained racial and gender disparities disfavoring men, blacks, and Hispanics. The most recent and most comprehensive study is by David Mustard (2001).<sup>19</sup> Mustard found significant racial and gender disparities in length of prison sentence even after accounting for position in the Guidelines sentencing grid (explained in greater detail below), offense type, education, income, and age. While Mustard found that the majority of the racial disparity was due to departures from the Guidelines, blacks sentenced within the

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<sup>15</sup> 18 U.S.C. § 3742.

<sup>16</sup> *Id.*

<sup>17</sup> Hofer et al. (1999) argue that the Guidelines slightly decreased inter-judge sentence disparities. Paul J. Hofer, Kevin R. Blackwell, & R. Barry Ruback, *The Effect of the Federal Sentencing Guidelines on Inter-judge Sentencing Disparity*, 90 J. CRIM. L. & CRIMINOLOGY 239 (1999). Anderson et al. (1999) found a decrease in inter-judge disparities in sentence length after the Guidelines, yet cautioned that the advent of mandatory minimum sentences for drug offenses might have contributed to the decline. John M. Anderson, Jeffrey R. Kling, and Kate Stith, *Measuring Interjudge Sentencing Disparity: Before and After the Federal Sentencing Guidelines*, 42 J. L. & ECON. 271 (1999). On the other hand, Lacasse and Payne (1999) found that judges affected plea bargaining to roughly the same degree before and after the guidelines, indicating that judges remained as important as before. Chantale Lacasse & A. Abigail Payne, *Federal Sentencing Guidelines and Mandatory Minimum Sentences: Do Defendants Bargain in the Shadow of the Judge?* 42 J. L. & ECON. 245 (1999).

<sup>18</sup> U.S.S.G. § 5H1.10.

<sup>19</sup> David B. Mustard, *Racial, Ethnic, and Gender Disparities in Sentencing: Evidence from the U.S. Federal Courts*, 44 J. L. & ECON. 285 (2001).

specified Guideline range still had an average prison sentence more than two months longer than whites.<sup>20</sup> Mustard also considered the probability that any prison time was imposed and the probability that a judge departed from the Guidelines. Again, he found unexplained race and gender disparities favoring whites and women. Women fared better than men in all specifications, and the gender disparity was usually much larger than the estimated racial disparities.

Steffensmeier and Demuth (2000),<sup>21</sup> Albonetti (1997),<sup>22</sup> and McDonald and Carlson (1993)<sup>23</sup> all find racial or gender disparities under the Guidelines. Pre-Guidelines studies on state and federal sentencing practices have found similar evidence of racial and gender disparities (Spohn et al. 1985, Steffensmeier et al. 1993).<sup>24</sup>

Finally, there is evidence that the race, gender, and age of the *victim* play a role in sentencing. Glaeser and Sacerdote (2003) found that punishments are harsher when victims are white or female.<sup>25</sup> Because the victims of minorities are disproportionately minorities, these effects would actually bias any estimate of the racial disparity downward.

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<sup>20</sup> This disparity was present for nearly all types of offenses, but ranged from almost 10.5 months for drug trafficking to .91 months for fraud.

<sup>21</sup> Darrell Steffensmeier & Stephen Demuth, *Ethnicity and Sentencing Outcomes in U.S. Federal Courts: Who is Punished More Harshly?*, 65 Am. Sociological Rev. 705 (2000)

<sup>22</sup> Celesta A. Albonetti, *Sentencing under the Federal Sentencing Guidelines: Effects of Defendant Characteristics, Guilty Pleas, and Departures on Sentence Outcomes for Drug Offenses, 1991-1992*, 31 LAW & SOC'Y REV. 789 (1997).

<sup>23</sup> Douglas C. McDonald and Kenneth E. Carlson, *SENTENCING IN THE FEDERAL COURTS: DOES RACE MATTER?*, 177 (1993).

<sup>24</sup> Cassia Spohn, Susan Welch, & John Gruhl, *Women Defendants in Court: The Interaction Between Sex and Race in Convicting and Sentencing.*, 66 Social Science Quarterly 178 (1985); Darrell Steffensmeier, John Kramer, & Cathy Streifel, *Gender and Imprisonment Decisions*, 31 Criminology 411 (1993).

<sup>25</sup> Edward Glaeser & Bruce Sacerdote, *Sentencing in Homicide Cases and the Roles of Vengeance*, 32 J. Legal Stud. 363 (2003).

## **2.2 Competing explanations for the existence of racial and gender disparities**

There are several observationally equivalent reasons why the race and gender dummy variables in sentencing regressions are significant and disfavor men and minorities. An obvious explanation is that judges are biased for or against certain classes of defendants. It is also possible that judges are engaged in “rational discrimination” against minorities and men because they perceive men and minorities as more dangerous and more likely to recidivate. An explanation based on rational discrimination, while perhaps justifiable under an optimal deterrence model, remains objectionable in a system that adheres to principles of blind justice and equitable sentencing and is clearly contrary to the goals of the Sentencing Guidelines.

Apart from discrimination, there are several sources of unobserved variable bias in studies of sentencing. For example, there is reason to doubt the reliability of the income data collected by the Sentencing Commission. The majority of defendants report little or no income, possibly to avoid paying restitution or fines. Assets are not observed at all, and both income and assets are determinants of quality of legal counsel and hence will play a role in sentencing, offense level determination, and the probability of a downward departure. These unobserved (or poorly observed) variables are undoubtedly correlated with race.

In addition, there are potentially characteristics of a crime that justify disparate sentencing within the Guidelines. The Guidelines recognize this and continue to leave some discretion to judges within the sentencing range and also permit departures provided the judge explains his or her reasoning in open court. The heinousness and other unique characteristics of an offense are not fully observed. Even when offense type

and offense level are controlled for, it is possible that a judge observes aspects of the crime that the econometrician does not. If the severity of the crime or individual blameworthiness is not fully controlled for and is correlated with race and gender, a disparity would be observed.

Some scholars have interpreted the existence of a gender disparity that favors women as evidence that a paternalistic or chivalrous bias exists among judges (Belknap, 2001; Edwards, 1989).<sup>26</sup> Others, however, have argued that the available evidence points toward the blameworthiness of the defendant and motherhood status as driving gender disparities (Spohn and Holleran, 2000; Steffensmeier et al. 1998; Steffensmeier et al. 1993).<sup>27</sup> A potential unobservable is accomplice status. If women are often accomplices in crimes, and if they are accomplices in a manner that the Guidelines do not fully account for, it is possible that the unexplained disparity is not motivated by bias.<sup>28</sup>

### 3. Estimation Strategy

The basic model I estimate is as follows:

$$(1) \text{Sentence}_{ijt} = I \text{Minority}_{ijt} + g \text{Female}_{ijt} + p X_{ijt} + q \text{Offense Characteristics}_{ijt} + d \text{District}_j + b \text{Term}_t + h \text{TrialType}_{ijt} + w \text{BenchDemog}_{jt} + y \text{BenchDemog}_{jt} \times \text{Female}_{ijt} + a \text{BenchDemog}_{jt} \times \text{Minority}_{ijt} + E_{ijt}$$

where i indexes individual offenders, j indexes district, and t indexes judicial term. The dependant variable is length of prison sentence in months. Probits on the same dependant

<sup>26</sup> Joanne Belknap, *The Invisible Woman: Gender, Crime, and Justice* (2001) [Wadsworth: Belmont, California]; Anne R. Edwards, *Sex/Gender, Sexism, and Criminal Justice: Some Theoretical Considerations*, 17 Int'l J. Sociology L. 165[-184] (1989).

<sup>27</sup> Cassia Spohn & John Spears, *The Imprisonment Penalty Paid by Young, Unemployed, Black and Hispanic Male Offenders*, 38 Criminology 281 (2000); Darrell Steffensmeier, Jeffrey Ulmer, and John Kramer, *The Interaction of Race, Gender, and Age in Criminal Sentencing: The Punishment Cost of Being Young, Black, and Male*, 36 Criminology 763(1998); Darrell Steffensmeier, John Kramer, & Cathy Streifel, *Gender and Imprisonment Decisions*, 31 Criminology 411 (1993).

<sup>28</sup> For a discussion of how why judges may frequently view women offenders as acting in an accomplice role, see Steffensmeier et al. (1993) at 434-435.

variables are also estimated for whether or not the defendant was incarcerated or granted a downward departure.

*Minority* is divided into four categories initially: *Black*, *Hispanic*, *Asian*, and *Other*, with whites being the excluded group. *X* represents a vector of individual offender characteristics such as age (entered as a quadratic), educational attainment (entered as dummy variables for high school, college, and advanced degree completion), citizenship status, and number of dependents (entered as dummies for zero, one, or two dependents). Income, while certainly relevant, is not included because it was collected for only three years, and my identification strategy relies heavily on variation in the district courts over time. As mentioned, the Guidelines prohibit the consideration of the race, gender, and citizenship status in sentencing.<sup>29</sup> Although the Sentencing Guidelines permit the consideration of the other individual variables in sentencing, the Commission has cautioned that they are “not ordinarily relevant” to determining the Guideline range or departures.<sup>30</sup>

Despite being discouraged or prohibited from consideration, these offender demographic variables are typically significant factors in sentencing regressions and are therefore included as controls. In addition, they are likely correlated with race and gender and therefore should be controlled for to the extent we are seeking to isolate race and gender effects. In practice, the inclusion or exclusion of these variables made little difference to the coefficient estimates on the variables of interest.

I control for offense characteristics in two ways. First, I include a set of dummy variables for primary offense of conviction (murder, arson, drug trafficking, fraud, etc.).

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<sup>29</sup> U.S.S.G. § 5H1.10.

<sup>30</sup> U.S.S.G. § 5H1.1-1.12.

Second, following the methodology of Mustard (2001), I include a dummy variable for each box on the sentencing grid. The offense level of fourteen and criminal history level of two are the excluded categories. Thus, each offense-criminal history combination has its own dummy variable. In addition, some Guidelines recommendations are trumped by statutory mandatory minimums, so I include the mandatory minimum sentence (when binding) as a control variable as well. I also control for whether the trial was by jury or by bench, with pleas being the excluded category.

Because I cannot match individual offenders to sentencing judges, I consider judicial characteristics at the district level. Given that the average district has only 7.5 judges, the addition or subtraction of a single judge can substantially alter the probability an offender is sentenced by a Democrat, female, or minority. The *Bench Demographic* variables are average age of the district's judges, percent Democratic appointees, percent female judges, percent black judges, and percent Hispanic judges. If cases are assigned randomly within a district, the district demographics represent the probability of an offender being sentenced by a judge of that group. Under this assumption, the coefficient on the *Bench Demographic* variable,  $\beta$ , represents the impact on sentencing of increasing the composition of a district court by 1% of the category indicated.

The *Black*, *Hispanic*, and *Female* dummies are interacted with the *Bench Demographic* variables except for the judge age variable. As discussed, the age of the judge has generally not been shown to be an important factor influencing judicial decision making. I continue to include it as a control variable, but its interactions with the offender characteristics were generally not significant. For ease of reporting, I do not include this variable in the set of interactions.

If the assumption of random assignment within a district holds, the interaction coefficients  $\gamma$  and  $\alpha$  are the effect on the unexplained disparity resulting from a one-percent increase in the probability of being sentenced by a judge of the indicated group. Because the variables of interest are district-level variables interacted with an individual characteristic, I report Huber-White robust standard errors adjusted for clustering by district.

The key variables of interest are the “own-effects” of judge and offender demographics (e.g., the coefficient on the interaction between the female dummy and percent female judges). However, a number of interesting cross-effects were detected, so the full set of interactions is always included. In addition, many minority and female judges were appointed by President Clinton, so the demographics of a district will be correlated with its political composition. It is therefore important to include a full set of interaction terms for the political composition and the race and gender of the offender to disentangle these effects.

District dummies are included in every regression, and should capture any district-specific effects. In addition, the inclusion of district dummies means that the identifying variation in the political, racial, and gender composition of the district bench comes from intra-district variation. Thus, concerns about non-random assignment (for example, Democrats or minorities being appointed to more high-crime districts) are lessened. To capture any time-specific effects, I include dummies for Guideline term.

It is possible that judges are not randomly assigned within a district. For example, as Ashenfelter et al. (1995) point out, some judges in the Eastern District of Pennsylvania do not hear cases tried in Philadelphia. They demonstrated that not accounting for this

would lead to an erroneous rejection of the random assignment hypothesis. I present evidence below that indicates that minority judges are more likely to be in districts that have a greater proportion of minority defendants. If these results carry over within a district, the probability a defendant is sentenced by a minority judge is actually greater than proportion of minority judges within a district. Thus, the coefficient on the *Race* and *Bench Demographic* interactions may be overstated and must be interpreted with this caveat. In addition, introducing minority or female judges to a district could affect the attitude of their white male colleagues toward minority and female defendants. My estimation strategy cannot distinguish between judge-specific effects and the possibility that having female and minority judges on the bench may change the attitudes of other groups.

There is an additional problem. The general impact of offense types is captured by the offense-type dummy variables. However, the dummies do not account for the possibility that Democratic, female, or minority judges may view certain crimes as more or less heinous than Republicans, men, or whites.<sup>31</sup> For example, if Democratic appointees regard drug penalties as too harsh, they may meet out lighter sentences for drug crimes. However, because minorities commit a disproportionate number of drug crimes, under the specification above the results could misleadingly suggest that Democrats are more lenient (and Republicans more harsh) toward minorities. To check for this possibility, some specifications below interact the judicial demographic variables with the offense-type dummies.

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<sup>31</sup> For example, Gruhl et al. (1981) found some evidence that female judges sentenced those who committed certain crimes more harshly than male judges.



As a final note, while this paper is only concerned with the discretion vested in judges, it should be recalled throughout that prosecutors and law enforcement have a great deal of discretion as well, particularly over what charges to bring, the vigorousness of the prosecution, and the content of the plea agreement. These factors will affect the offense level and whether charges are even brought. The Guidelines did little to reduce and may in fact have increased prosecutorial discretion. Instead of traditional charge bargaining, under which prosecutors agree to drop charges in exchange for a guilty plea, prosecutors may now pursue “offense-level” bargaining. As Stith and Cabranes (1998) point out, this has increased the prosecution’s influence over the actual sentence because the base offense level is an important factor in determining the sentencing range.<sup>32</sup> My analysis considers the sentencing of the offender *after* any prosecutorial biases have already affected the calculation of the offense level or the bringing of a charge.<sup>33</sup>

## 4. The Data

The data come from two sources. The data on offenders sentenced under the Guidelines was collected by the United States Sentencing Commission, which collects information on every individual sentenced under the federal Sentencing Guidelines.<sup>34</sup> The data on district-level judicial demographics comes from the Federal Judicial Center biographical data on federal judges.<sup>35</sup>

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<sup>32</sup> Stith & Cabranes at 130-33.

<sup>33</sup> It is possible that some prosecutorial bias is still captured by the results as the effectiveness with which prosecutors bring a case

<sup>34</sup> The data available from the University of Michigan’s ICPSR.

<sup>35</sup> *History of the Federal Judiciary*, available at <http://www.fjc.gov> (web site of the Federal Judicial Center, Washington, DC).

The sentencing data record important offense characteristics such as the offender's criminal history, offense level, and the primary offense of sentencing. The sentencing data also include a number of important offender characteristics, such as age, race, educational attainment, number of dependents, and citizenship status. The source for this biographical information is the pre-sentence report prepared by the probation officer, which the judge relies upon in sentencing.

Table 1 presents the means and proportions of variables of interest. I use sentencing data between the 1992/93 Guideline term and the 2000/01 Guideline term (inclusive).<sup>36</sup> This yields a sentenced population of 437,649. Because a number of key offender variables are missing for many individuals, the sample used was reduced to 371,602.<sup>37</sup>

Significant differences in the estimated effect of judicial characteristics were apparent based on the type of offense committed. For example, having more black judges on the bench did not affect the estimated black offender disparity for serious crimes such as murder and drug trafficking, but did affect the disparity for less serious crimes such as fraud. Therefore, I divide the crimes into two categories: "Serious" and "Less-Serious". "Serious Crimes" are defined as murder, kidnapping, sexual abuse, assault, bank and other robbery, extortion, arson, any drug crime, any firearm crime, burglary, auto theft, racketeering, immigration offenses, pornography offenses, offenses committed in prison, and "other violent offenses". Serious offenses comprise the vast majority of sentenced offenders under the Guidelines. With the exception of drug possession, each of the crimes labeled as "serious" received jail sentences 85% of the

<sup>36</sup> New Guidelines terms start in November.

<sup>37</sup> Mustard noted a similar reduction in the sample size because of missing variables. *Id.* at 298.

time or more. Incarceration was ordered in over 93% of serious crimes. In the case of drug trafficking convictions, jail time was ordered over 95% of the time.

The average length of prison sentence for serious crimes was 61.3 months. The Guidelines abolished parole and only minimal time off is granted for good behavior. Thus, the prison sentences imposed will closely reflect actual time served. The maximum non-life prison sentence was 990 months, and life sentences were excluded from the analysis. The inclusion or exclusion of life sentences (imputed from age of the defendant or top-coded) mattered very little to the final results, and they accounted for less than .04% of all sentences.

“Less Serious Crimes” are defined as larceny, fraud, embezzlement, forgery, bribery, tax offenses, money laundering, gambling offenses, administration of justice offenses (obstruction), environmental offenses, and property offenses. With the possible exception of gambling offenses, these offenses are basically “white-collar” crimes. Offenders received jail time in just over 55% of these cases. The average sentence for less serious crimes was 11.0 months.

Offenses counted in neither category are civil rights, environmental, national defense, antitrust, traffic, “other environmental,” food and drug, and miscellaneous offenses. These offenses are few in number and defied easy categorization. (As noted below, I include these categories in the full-sample regressions.)

Together, blacks and Hispanics account for nearly 61% of all those sentenced under the Guidelines in this period, and over 71% of serious offenders. The racial categories sum to more than one because 4.2% of Hispanics are also identified as black. I code these individuals as members of both racial categories in the estimation, but their

exclusion and inclusion had little effect on the results. Men make up the vast majority of those sentenced under the Guidelines. Men account for almost 90% of serious sentenced offenders and 63.5% of non-serious offenders. Offenders who commit serious crimes are poorly educated, with 97% having a terminal degree of a high school education or less. Not surprisingly, those who commit less serious offenses are better educated and older.

Apart from total prison sentence, other measures of punishment are also of interest. First, there is the incarceration decision, already discussed. Second, a judge may depart from the Guidelines. Downward departures are of two types. Substantial assistance downward departures are the result of defendant cooperation and must be initiated by the prosecution. Other downward departures may be granted over the objections of the prosecution. These include downward departures for family ties, overstatement of criminal history, and acceptance of responsibility. A judge who makes a non-substantial assistance departure must justify the decision, which may be scrutinized by an appellate court. Downward departures occurred in 31.5% of all sentences (35.2% of serious crimes and 22.3% of non-serious crimes). The majority of downward departures were granted for substantial assistance (on the motion of the prosecution).<sup>38</sup>

Table 2 presents the type and distribution of offenses. Offenders in federal courts commit different crimes from those in state courts, where most offenders are tried. Not surprisingly, federal offenders are heavily concentrated in crimes that have interstate characteristics. Forty-two percent of those sentenced under the federal Guidelines were sentenced for drug trafficking, over 13% were sentenced for fraud, and over 9.5% for

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<sup>38</sup> Upward departures are rare events, occurring in less than 1% of all cases. Examination of upward departures did not yield any significant results (perhaps because they are too rare to permit effective estimation) and are therefore not reported.

immigration offenses. Over the nine Guideline terms in study, only 782 in the sample were sentenced for murder and 455 for manslaughter.

Given the nature of the data, there are potential sources of bias that this study does not capture. First, prosecutors and law enforcement agents have discretion over whom to prosecute and charges to bring. Second, the data only cover those sentenced under the Guidelines, which means those who were convicted or pleaded guilty under the Guidelines. While the vast majority of criminal indictments lead to plea bargains or convictions, I do not observe acquittals. Therefore, all results are conditional on being and convicted or agreeing to a plea bargain.

Unfortunately, the data do not identify the sentencing judge, and the Sentencing Commission will not release the information. Thus, I rely on district-level variation in the racial and gender composition of the federal courts to identify the effects of judge characteristics on the sentencing disparity. I consider the composition of the district courts by active judges alone.<sup>39</sup>

In order for district-level judicial demographics to have identifying power, substantial variation in the composition of the district courts has to occur over the time frame of the observations. Figures 2 through 7 demonstrate substantial variation between 1990 and 2002 in the political, racial, and gender composition of the district courts. Recall that the sentencing data are from the 92/93 to 00/01 Guideline terms. The later

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<sup>39</sup> Senior judges are partially retired and have greater discretion over their caseload. In another unreported specification, I counted senior judges as half-time, and the results changed very little. In any event, this group is almost 90% white men and for the most part merely changes the denominator of district demographics.

and earlier dates are included in the graphs for comparison purposes. With 91 district courts, there are 819 district-year observations.<sup>40</sup>

Over the time frame of the sample, Democratic appointees moved from being a minority of federal district judges, 23% in 1992, to a bare majority in 2000 and 2001 (see Figure 4). The total number and relative percentage of female judges also substantially increased in this period, from roughly 12% of the federal bench in 1992 to nearly 20% by 2001. The same is true of black judges in this period, increasing from just over 6% of district court judges in 1992 to over 11% in 2001. Figures 6 and 7 demonstrate the numerical and percentage turnover of judges in a given term. There is clearly a substantial amount of churning in the district courts over the sample time frame.

Table 3 demonstrates the variation within the population of offenders of district-level judicial demographics. The mean percentage of female, black, and Hispanic judges in districts in which offenders were sentenced are 16.2%, 8.04%, and 7.92% respectively. Almost 94% of offenders were sentenced in districts with at least one Democratic appointee and over 66% were sentenced in a district with at least one female judge. Almost 60% of offenders were sentenced in a district with at least one black judge, and 43% were sentenced in a district with at least one Hispanic judge.

It appears that blacks and Hispanics are more likely to be sentenced in districts with a greater proportion of black and Hispanic judges. Tests for random distribution of judge and offenders by race all strongly rejected the hypothesis—districts with more black and Hispanic defendants have a greater proportion of black and Hispanic judges. (One heavily Hispanic district, Puerto Rico, had an entirely Hispanic bench during some

<sup>40</sup> The district courts for Guam, the U.S. Virgin Islands, and the North Mariana Island were excluded from the analysis.

judicial terms.) Female offenders are actually slightly less likely to be sentenced in districts with a greater percentage of female judges. This difference was also statistically significant.

## 5. Results

Table 4 presents OLS regressions on total prison sentence for all offense types. Table 5 presents the same results for serious crimes, and Table 6 repeats the exercise for less serious crimes using a Tobit regression because of the significant number of zero prison sentences. Tables 7 and 8 present the probit results for incarceration and downward departures.

The first column of Table 4 does not include the district-level interactions. Consistent with the previous studies, large unexplained gender and race disparities are observed. In Column 1, women have sentences 7.6 months shorter than observationally equivalent men. Blacks and Hispanics receive substantially longer sentences than observationally equivalent whites at 4.7 months and 1.6 months respectively. Given an average sentence of 45.77 months, the relative size of the disparities for women and blacks are quite large.

The coefficients on the offender demographic variables are consistent with previous work and signed as expected. Age is positively but decreasingly associated with length of prison sentence, non-citizens receive 1.75-month longer sentences than citizens, better educated defendants receive shorter sentences (although whether this is a function of a bias in favor of education or wealth is unclear), and those with no dependants receive slightly longer sentences. Similar results for offender personal traits are found throughout model specifications and across categories of crimes.

In the remaining columns of Table 4, the main variables of interest are the district-level judicial demographic variables, which are italicized in the tables, and their interaction with the race and gender dummies. Column 2 includes the entire sample. Columns 3 and 4 divide the sample into cases sentenced under any departure and those sentenced within the prescribed Guideline range. These columns demonstrate that the bulk of the disparities come from departure sentences. Although the race and gender dummies remain significant when the sample is divided into Guideline sentences and departures, the estimated female and black disparities for the departure cases in Column 3 are over twice as large as the Guidelines cases in Column 4. In addition, the individual offender demographic variables are not significant in Guidelines-only cases. The R-squared for the Guidelines regression in Column 4 is .8772. Because the individual offender traits are largely insignificant, this suggests that the offense level, offense type, and criminal history largely determine sentences when the Guidelines are applied. The R-squared for departure cases in Column 3 is only .5656, suggesting that much less variation is explained in cases sentenced outside of the Guidelines. The key point, however, is that the estimated racial and gender disparities exist in both cases.

Column 5 eliminates sentences in the A, B, and C range of the sentencing table. The Guidelines permit a portion of the sentences in these ranges to be replaced by alternative forms of punishment such as probation, periodic imprisonment, or house-arrest.<sup>41</sup> It is not clear how to impute a prison sentence from these alternative forms of punishment. When these ranges are eliminated, over 96% of the remaining offenders receive a prison sentence. In general, the estimated effects of the variables of interest remain quite similar when we remove the possibility of alternative sentences.

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<sup>41</sup> See U.S.S.G. §§5B1.1, 5C1.1(d).



With the exception of the *Percent Hispanic*, the coefficients on the district-level judicial demographic variables are insignificant across specifications in Table 4. This suggests that there is little impact on average sentences from having a greater proportion of female, Democratic, or black judges. This is true both for cases in which the judge may have exercised substantial discretion in departures and for cases in which the judge sentenced within the Guidelines.

It is possible to interpret the positive and significant coefficient on *Percent Hispanic* as suggestive of Hispanic judges being relatively harsher. However, given that Hispanic judges are not randomly distributed across districts and that there was significantly less variation in the number of Hispanic judges over the time frame of the sample, I hesitate to make any firm conclusions in this regard.

The interaction terms reveal some intriguing results which are replicated throughout this paper. There is no evidence that women and minorities are sentenced differently in more Democratic districts than in more Republican districts. With two exceptions discussed below, this result holds across crime categories and model specifications. One must interpret non-findings carefully. However, given the substantial amount of variation in the political composition of the federal district courts over time and across districts and the large sample size, one would have expected any sizeable ideological effect to be easily measured.

Second, the greater the percentage of female judges on the district's bench, the longer the sentences received by female offenders. The size of the coefficient on *Female\*%Female* in Column 2 is .064. If we boldly make an out-of-sample prediction, this suggests that a completely female district bench would result in an average sentence

of 6.4 months longer for female offenders than in an all-male district. This would basically eliminate the estimated gender disparity of 7.6 months. This finding is replicated in Columns 3, 4, and 5. Such an interpretation may not be valid simply because it is out-of-sample and because a more female bench may affect male judges' attitudes toward women in a legal setting. It suggests, however, that the size of the estimated coefficient is both plausible and consistent with the existence of a gender disparity emanating primarily from male judges. In addition, the coefficient on the interaction term is significant at the 10% level in both Columns 3 and 4, when the sample is divided between departures and Guidelines cases, and becomes stronger in Column 5, when lower range offense levels are removed. Finally, there are no female-judge effects detectable from the percent female judge and defendant race interactions.

The percent black judge interactions suggest that having more black judges on the bench results in lighter sentences for women and Hispanics. Interestingly, there is no discernable impact for black defendants, and the significant result for Hispanic defendants comes entirely from sentences within the range (non-departure cases). There is weak evidence that Hispanic judges are lighter on black and Hispanic defendants. The joint test of the Hispanic racial interactions is significant at barely the 10% level.

The specification reported in Table 4 reveals a strong, positive female judge/female defendant effect, but weak and not entirely consistent race-of-judge effects. However, the division of the criminal categories into serious and non-serious crimes creates a clearer picture. Table 5 limits the sample to those who were sentenced for "serious" crimes. As discussed previously, imprisonment resulted in over 93% of cases defined as serious. Column 3 includes interactions between offense categories and

district demographics. In addition, because 61% of serious crime sentences were for drug trafficking, I analyze drug trafficking and other serious crimes separately in Columns 4 and 5.

As in Table 4, there is no measurable impact on gender and racial disparities attributable to the political composition of the district bench. Again, the greater the percentage of female judges, the longer the prison sentences for women. The inclusion of judge/offense category interactions in Column 3 does not change this result. The female defendant/percent female judge coefficient is larger than that estimated in Table 5 and particularly strong for crimes other than drug trafficking (Column 4). I could not reject the hypothesis that, with a 100% female district bench, the female defendant/percent female judge coefficient exactly offsets the estimated gender disparity.

The coefficients on race of defendant/race of judge interactions are quite similar to those in Table 4 but are much more precisely estimated. While having more black judges in a district again has no measurable effect on the sentences received by black defendants, there is a discernable benefit to Hispanic defendants. The coefficient on *Hispanic\*%Black Judge* is not significant in Column 2, but is significant at less than the 5% level in Column 3 when judge/offense category interactions are included. As Columns 4 and 5 demonstrate, judge/offense category interactions make a difference here because of the lighter sentences meted out solely to Hispanic drug trafficking offenders in districts with more black judges. No percent black judge effect is evident on Hispanics who committed other serious offenses.<sup>42</sup> Interestingly, the bulk of the Hispanic racial

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<sup>42</sup> The estimated Hispanic defendant/black judge interaction coefficient is quite large, implying that an all-black bench would reduce the sentences received by Hispanic drug offenders by 24.8 months. This is in contrast to an estimated Hispanic sentencing disparity of 7.66 months. Thus, the magnitude of the interaction coefficient is quite large relative to the racial disparity. This is not too disconcerting however.

disparity estimated previously seems to be attributable to differential sentences Hispanic drug traffickers received. Thus, the fact that judge effects would be concentrated in this category is not too surprising.

In contrast to Table 4, there is now a strong female defendant/percent black judge effect, suggesting that women receive lighter sentences in districts with more black judges. This effect is robust across specifications, and evident both for drug trafficking and other serious crimes.

Strong effects are observed for offender race/percent Hispanic judge interactions in Columns 2, 4 and 5. The effect of having more Hispanic judges is roughly the same for both black and Hispanic defendants, and the joint effect is significant at less than the 1% level. However, when offense type was interacted with judicial demographics in Column 3, there is no measurable offender race/percent Hispanic judge effect. This is particularly disconcerting as there is already less identifying variation from Hispanic judges. As discussed, it is possible that judges view crimes differently, not criminals. If Hispanic judges are more sympathetic to, say, immigration offenders and immigration offenders are disproportionately Hispanic, the correlation between percent Hispanic judges and the sentencing of Hispanic defendant may be spurious. I say “may be spurious” because the judge could view a crime as more or less serious precisely because of the racial composition of the perpetrators, while treating all offenders in that category equally.

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First, statistical tests did not reject the hypothesis that the Hispanic defendant/black judge interaction exactly offsets the estimated Hispanic defendant disparity of 7.66 months. Second, the black judge effect may be somewhat overstated to begin with if Hispanic defendants are more likely to be sentenced by a minority judge because of district rules.

This potential bias is not possible when drug trafficking alone is examined in Column 5. Within the category of drug trafficking crime, the greater the number of Hispanic judges in a district, the lighter the sentence on black and Hispanic drug trafficking offenders. Again, a bold out-of-sample prediction indicates that a 100% Hispanic district would eliminate all observed racial disparities in drug trafficking sentences.

Thus, in the case of serious crimes, we can draw the following conclusions: (1) the greater the proportion of female judges in a district, the lower the gender disparity (i.e. the more men and women are treated alike); (2) the greater the proportion of black judges in a district, the larger the gender disparity; (3) there is little evidence that having more black judges reduces observed racial disparities (with the exception of disparities for Hispanic drug traffickers); (4) there is evidence that having more Hispanic judges reduces racial disparities in drug trafficking sentences, although the same result for non-drug crimes appears to be driven by differential sentences among crime categories, not criminals.

Table 6 presents Tobit estimates for non-serious crimes. Because of convergence problems when a large number of dummy variables were entered, criminal history and offense level are controlled for by quadratic terms in each and an interaction term between them. As can be seen in Column 1, significant unexplained racial and gender disparities persist even for non-serious crimes. The race and gender composition of the district bench again appears to have no measurable influence over prison sentences generally. The political composition of the district possibly has an effect, however. The coefficient on *Percent Democrat* is now positive and significant at the 6% level, implying

that less serious offenders may receive longer sentences the more Democratic the district bench.

Different results are also obtained for the interaction terms. First, an increase in the number of Democratic judges is now associated with lower sentences for Hispanic defendants. Second, the female judge interaction terms are not significant at the 5% level for any group. Third, the proportion of Hispanic judges in a district seems to have little effect on the sentencing of women or minorities. Finally, black defendants sentenced in districts with a greater percentage of black judges have significantly lower sentences. In fact, statistical tests indicate that an all black district court bench would more than offset the estimated racial disparity. The results are largely robust to the inclusion of offense-type interactions in Column 3.

Table 7 presents probit results for any jail time (dependent variable equals one if any jail time given, zero otherwise) and Table 8 presents probits for downward departures (dependent variable equals one if a departure is granted, zero otherwise). Again, the sample is divided into the categories of “serious” and “less serious” crimes. The sample sizes differ from the OLS and Tobit estimates for several reasons. Some offense and criminal history levels were perfect predictors of prison sentences and those observations had to be dropped. In the case of downward departures, any guideline range permitting a sentence of zero months had to be dropped (since downward departures are impossible in that case).

As in the case of the total prison time regressions, large disparities disfavoring men, blacks, and Hispanics are observed almost across the board. Translating the probit coefficients into percentage terms demonstrates that the magnitude of the disparities is

quite large. For example, taking all other values at their means, a woman convicted of a serious crime is 5% less likely to be sentenced to jail time than a man and is 15% more likely to receive a downward departure.

In the case of the decision to incarcerate, I find some evidence of a political composition effect on racial and gender disparities. Hispanic defendants in relatively more Democratic districts are less likely to be incarcerated for both serious and non-serious crimes. There is, however, no comparable effect for black defendants. In addition, there is weak evidence that women who commit serious crimes are more likely to be incarcerated in relatively more Democratic districts (the p-value on the  $\text{Female} \times \% \text{Democratic}$  coefficient was .052).

Again, there are large estimated effects on racial disparities from having relatively more Hispanic judges, but these effects were not robust to the inclusion of judge/offense type interactions. While the results reported do not include judge/offense type interactions, their inclusion made little difference except in the case of percent Hispanic judge interactions (as was the case in the OLS estimates of total prison sentence in Table 5).

Table 8 presents results for downward departures. Columns 1 and 2 include all downward departures while Columns 3 and 4 exclude substantial assistance downward departures from the analysis. Substantial assistance departures must be requested by the prosecution. However, if bargaining occurs in the shadow of the judge, the reputation of the judge or the district bench may also influence whether the prosecution seeks a downward departure. I therefore include them in the specification in Columns 1 and 2.

There is little evidence that the composition of the district bench affects downward departures in general. The lone exceptions are the black defendant/percent Hispanic judge interaction and female defendant/percent Hispanic judge interaction. The coefficients on these interactions indicate that black defendants are more likely to receive downward departures in districts with a greater percentage of Hispanic judges and female defendants less likely. As with the previous percent Hispanic judge interactions, however, these results were no longer significant after the inclusion of judge/offense type interactions.

When substantial assistance departures are excluded, some interesting results are revealed. The percent Hispanic judge interactions remain significant for serious crimes but, as before, are not robust to the inclusion of offense-type interactions. In the case of less serious crimes, more Democratic district benches are less likely to grant downward departures to women. In addition, black offenders in districts with a greater percentage of black judges are more likely to receive downward departures.

In recognition of the complexity of the results, the interaction terms are summarized in the following tables. A “-” indicates no significant effect.

### Results Summary 1: Judge Effect on Total Prison Time

	Serious Crimes			Non-Serious Crimes		
	Female Defendant	Black Defendant	Hispanic Defendant	Female Defendant	Black Defendant	Hispanic Defendant
<b>% Democratic Judge</b>	–	–	–	–	–	Decreases Sentence
<b>% Female Judge</b>	Increases Sentence	–	–	–	–	–
<b>% Black Judge</b>	Decreases Sentence	–	Decreases Sentence	–	Decreases Sentence	–
<b>% Hispanic Judge+</b>	–	Decreases Sentence	Decreases Sentence	–	–	–



## Results Summary 2: Judge Effect on Probability of Incarceration

	Serious Crimes			Non-Serious Crimes		
	Female Defendant	Black Defendant	Hispanic Defendant	Female Defendant	Black Defendant	Hispanic Defendant
% Democratic Judge	Increases Probability	–	Decreases Probability	–	–	Decreases Probability
% Female Judge	–	–	–	–	–	–
% Black Judge	–	–	Decreases Probability	–	Decreases Probability	–
% Hispanic Judge+	–	Decreases Probability	Decreases Probability	–	–	–

## Results Summary 3: Judge Effect on Probability of Judge-Initiated Downward Departures

	Serious Crimes			Non-Serious Crimes		
	Female Defendant	Black Defendant	Hispanic Defendant	Female Defendant	Black Defendant	Hispanic Defendant
% Democratic Judge	–	–	–	Decreases Probability	–	–
% Female Judge	–	–	–	–	–	–
% Black Judge	–	–	–	–	Increases Probability	–
% Hispanic Judge+	Decreases Probability	–	–	–	–	–

\* indicates insignificant result.

+Note: Significant results for Hispanic judges were not robust to judge/offense type interactions.

## 6. Conclusion

Despite large, persistent racial disparities in sentencing, the political, gender, and racial composition of a district's bench has no general effect on the punishment of black and Hispanic offenders. This result is not entirely consistent with any potential explanation behind unexplained racial disparities in sentencing.

A tempting interpretation of this non-finding is that estimated racial disparities are not the result of bias but rather the result of poor controls for variables such as quality of

legal counsel or the heinousness of the crime. Indeed, there were no measurable differences in the way male and female judges, Democratic and Republican judges, and (with regard to serious crimes) black and white judges treated black offenders. If racial prejudice on the part of judges, rational or otherwise, were behind sentencing disparities, one may well expect a judge's background to correlate with disparate treatment.

It is possible, however, to invent a story of multiple biases. For example, while white judges may view black serious offenders as more dangerous, black judges may sympathize more with the disproportionately black victims of black crime.<sup>43</sup> This may lead to similar sentencing outcomes, but for very different reasons.

In addition, the percentage of minority judges on the bench had some effect on minority sentences. In the case of less serious crimes, having a greater proportion of black judges reduced black-white disparities in total sentence and in the probability of receiving jail time and downward departures. In districts with a greater proportion of Hispanic judges, the disparities between black, Hispanic, and white serious offenders were lower. However, the results suggest that this effect may be caused by Hispanic judges' attitude toward different offenses, not an offender's personal characteristics.

It is also possible that black judges could incorporate the biases of their white peers and consequently sentence black serious offenders in a similar manner. The results are not entirely consistent with this theory either. Having a greater proportion of black judges had little effect on the black-white disparity for serious crime, but it reduced disparities for blacks who committed less serious crimes and for Hispanic drug traffickers.

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<sup>43</sup> Even when the crime may have unidentifiable victims, as in the case of drug trafficking, judges may perceive different impacts on different communities.

The results for female offenders in the case of serious crimes tell a clearer story. The greater the percentage of female judges on a district's bench, the smaller the gender disparity. These results are hard to square with the suggestion that unobserved accomplice status or blameworthiness is behind the gender disparity. At the very least, male and female judges view the dangerousness, accomplice status, or blameworthiness of female offenders differently.

The female offender/percent female judge effects did not fully carry over to the probits on incarceration or downward departures for serious crime and were not evident at all in the category of less serious crimes. (There was some evidence in the case of less serious crimes that more Democratic districts treated men and women alike when granting downward departures.) However, paternalistic views about the dangerousness or blameworthiness of female offenders may well be most evident in the case of serious crimes. Similarly, most of the variation from the incarceration probit comes from very low offense levels, and hence does not pick up the effects of judges' attitudes towards more serious offenses.

Even considering all of the caveats above, some firm conclusions can be reached. First, judicial background affects sentencing disparities, but not in ways that are easily predictable. A number of significant effects were observed, even if they cannot be fully reconciled with a particular theory

Second, appointing more black judges to the bench is unlikely to reduce sentencing disparities for black offenders who commit serious crimes. In districts with a greater percentage of black judges, disparities for Hispanic drug traffickers were reduced, but no similar benefit was received by black drug traffickers. However, black offenders

who committed less serious crimes were sentenced lighter in districts with more black judges.

Third, the political composition of the district court matters little to sentencing disparities. No general political composition effects were observed. The only observed percent Democrat/race effects were limited to Hispanic offenders, even though disparities are largest for black offenders.

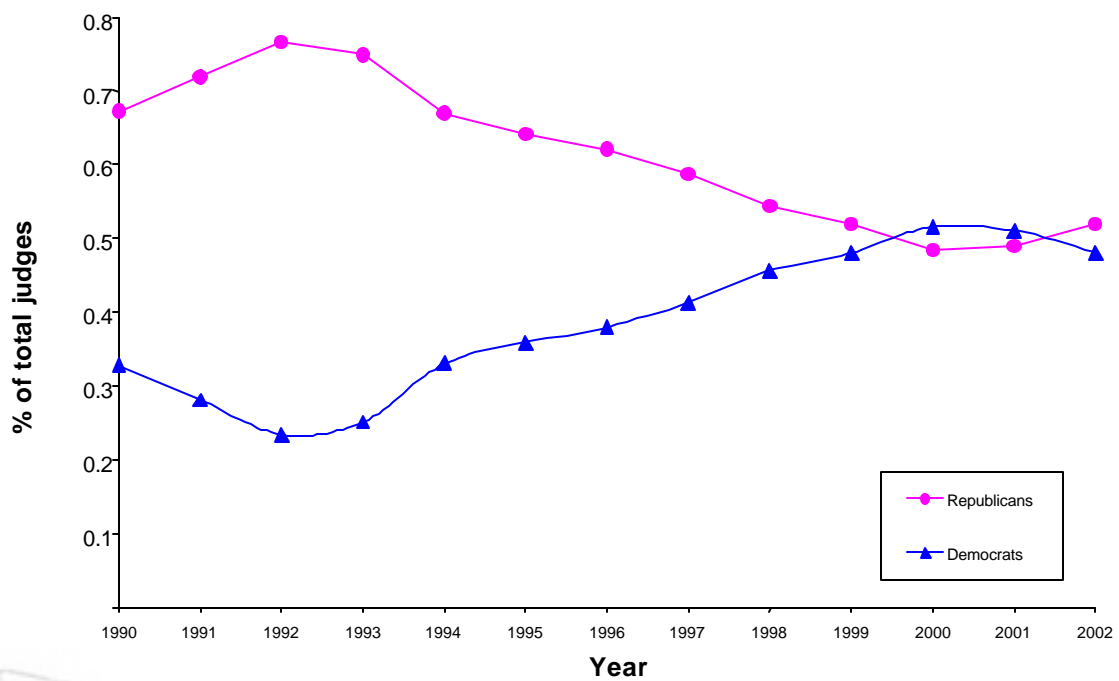
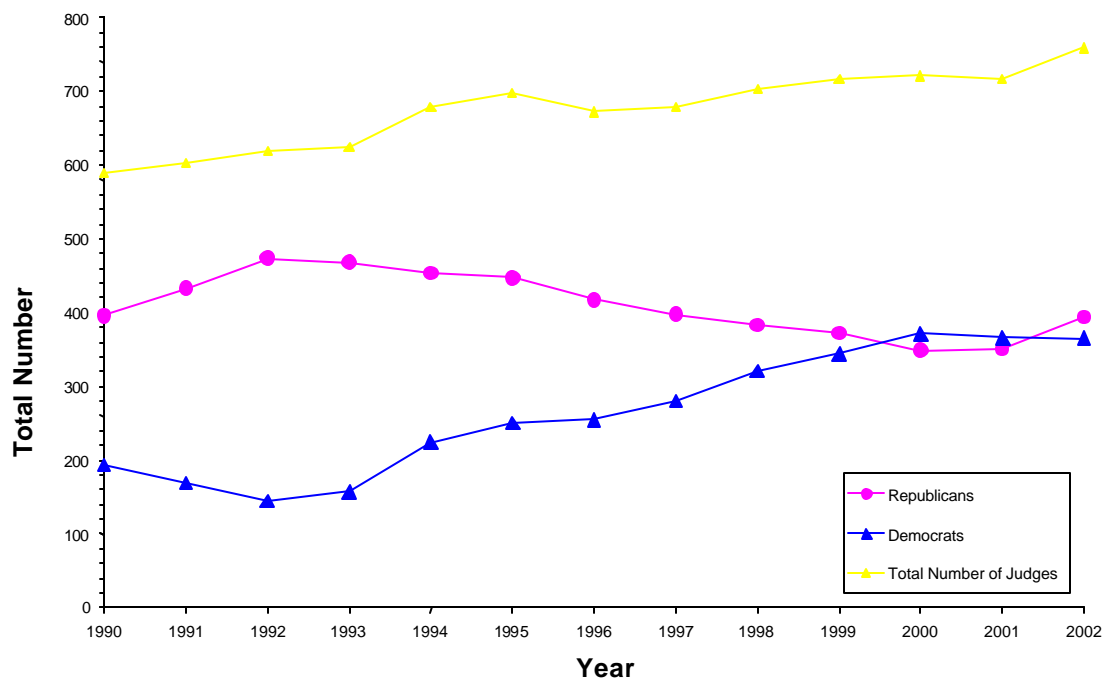
Finally, a greater proportion of female judges on the bench is associated with a lower gender disparity for serious crimes. This result is most easily reconciled with the idea that female offenders benefit from the paternalistic biases of male judges.

Figure 1: United States Sentencing Guidelines

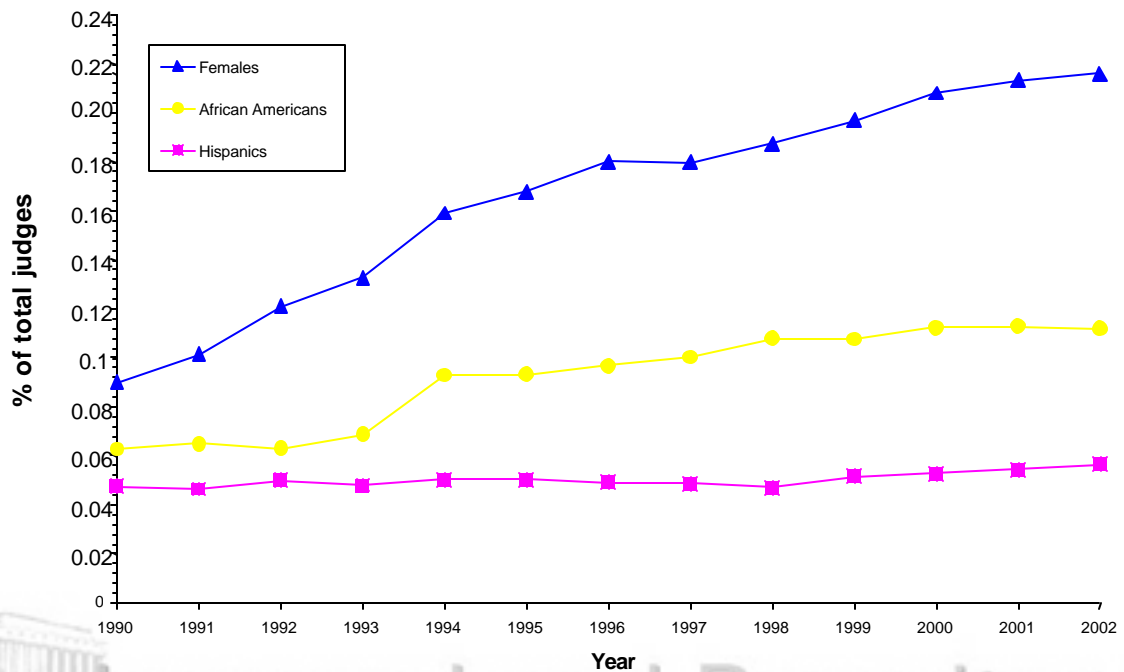
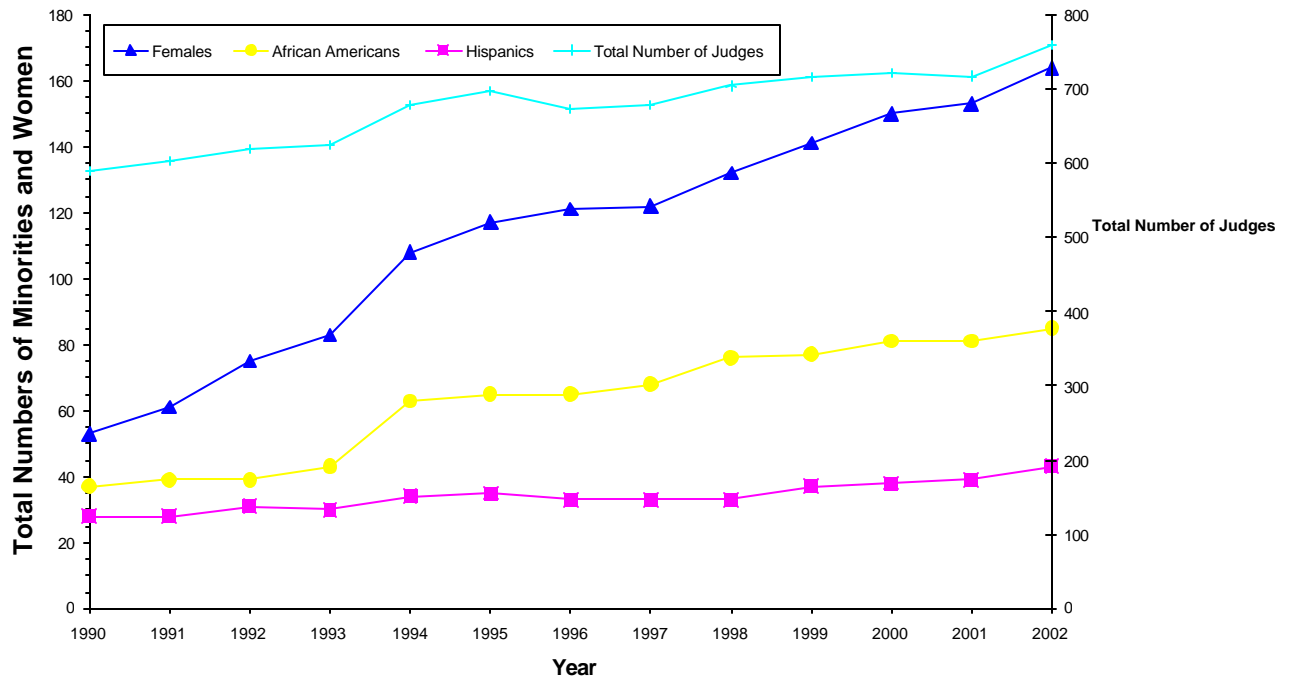
SENTENCING TABLE (in months of imprisonment)						
Offense Level	Criminal History Category (Criminal History Points)					
	I (0 or 1)	II (2 or 3)	III (4, 5, 6)	IV (7, 8, 9)	V (10, 11, 12)	VI (13 or more)
Zone A	1	0-6	0-6	0-6	0-6	0-6
	2	0-6	0-6	0-6	0-6	1-7
	3	0-6	0-6	0-6	2-8	3-9
	4	0-6	0-6	2-8	4-10	6-12
	5	0-6	1-7	4-10	6-12	9-15
	6	0-6	1-7	2-8	6-12	12-18
Zone B	7	0-6	2-8	4-10	8-14	12-18
	8	0-6	4-10	6-12	10-16	15-21
	9	4-10	6-12	8-14	12-18	18-24
Zone C	10	6-12	8-14	10-16	15-21	21-27
	11	8-14	10-16	12-18	18-24	24-30
	12	10-16	12-18	15-21	21-27	27-33
Zone D	13	12-18	15-21	18-24	24-30	30-37
	14	15-21	18-24	21-27	27-33	33-41
	15	18-24	21-27	24-30	30-37	37-46
	16	21-27	24-30	27-33	33-41	41-51
	17	24-30	27-33	30-37	37-46	46-57
	18	27-33	30-37	33-41	41-51	51-63
	19	30-37	33-41	37-46	46-57	57-71
	20	33-41	37-46	41-51	51-63	63-78
	21	37-46	41-51	46-57	57-71	70-87
	22	41-51	46-57	51-63	63-78	77-96
	23	46-57	51-63	57-71	70-87	84-105
	24	51-63	57-71	63-78	77-96	92-115
	25	57-71	63-78	70-87	84-105	100-125
	26	63-78	70-87	78-97	92-115	110-137
	27	70-87	78-97	87-108	100-125	120-150
	28	78-97	87-108	97-121	110-137	130-162
	29	87-108	97-121	108-135	121-151	140-175
	30	97-121	108-135	121-151	135-168	151-188
	31	108-135	121-151	135-168	151-188	168-210
	32	121-151	135-168	151-188	168-210	188-235
	33	135-168	151-188	168-210	188-235	210-262
	34	151-188	168-210	188-235	210-262	235-293
	35	168-210	188-235	210-262	235-293	262-327
	36	188-235	210-262	235-293	262-327	292-365
	37	210-262	235-293	262-327	292-365	324-405
	38	235-293	262-327	292-365	324-405	360-life
	39	262-327	292-365	324-405	360-life	360-life
	40	292-365	324-405	360-life	360-life	360-life
	41	324-405	360-life	360-life	360-life	360-life
	42	360-life	360-life	360-life	360-life	360-life
	43	life	life	life	life	life



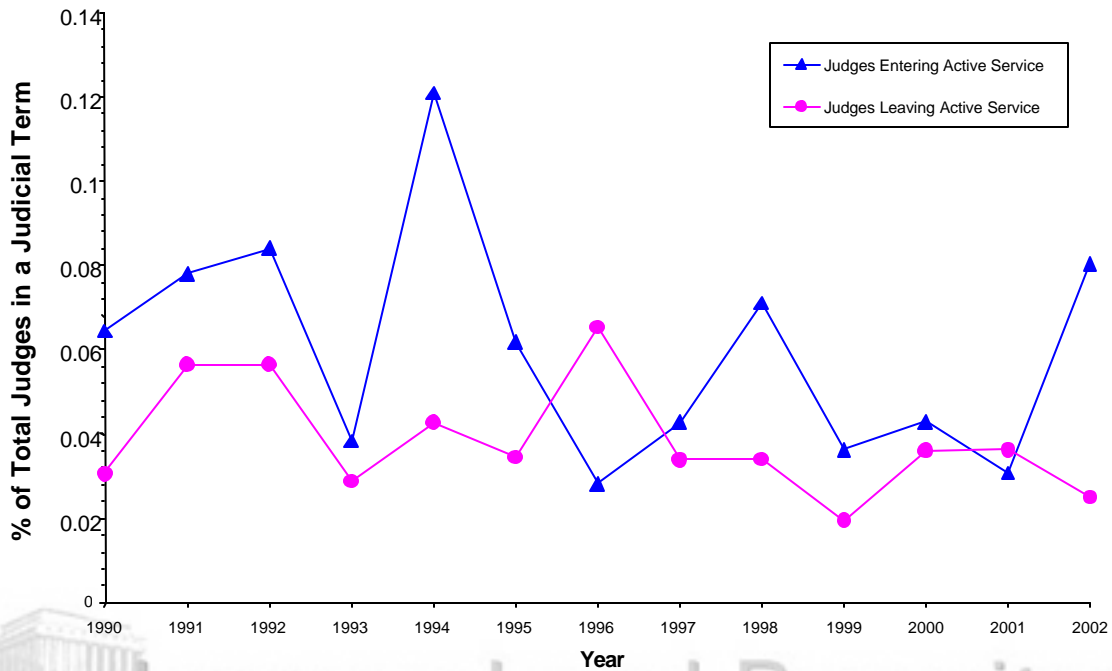
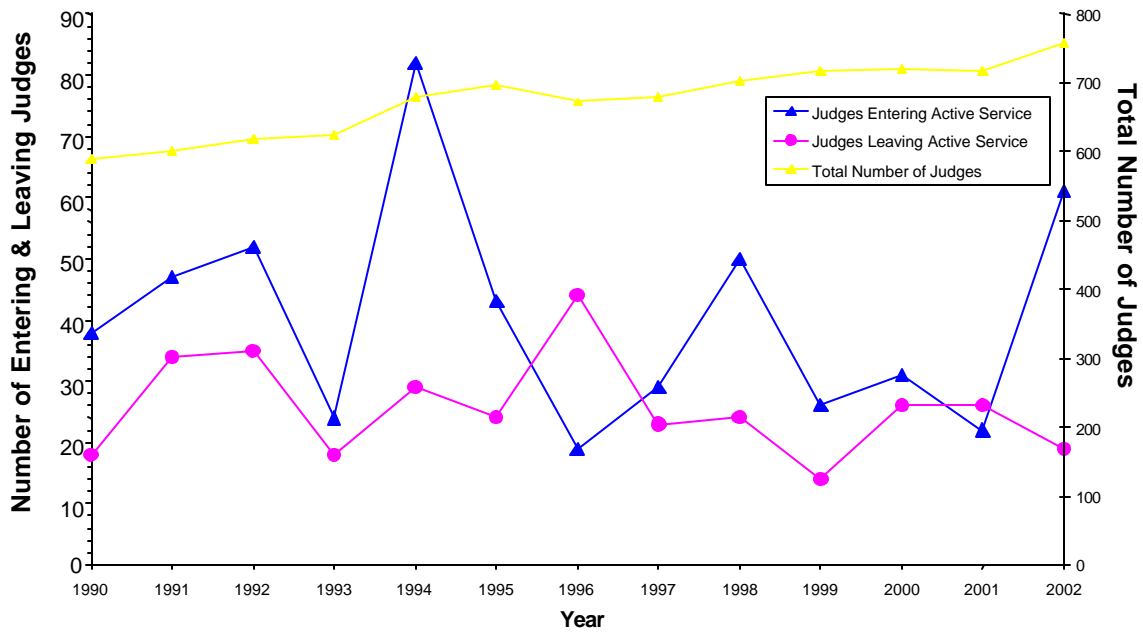
**Figures 2-3: Democratic and Republican Appointees**



Figures 4-5: Female and Minority Judges



**Figures 6-7: Judicial Turnover**





**Table 1: Means and Proportions (Standard Errors in Parentheses)**

Variable	Mean or Proportion All Crimes	Mean or Proportion Serious Crimes*	Mean or Proportion Less-Serious**
Total Prison Sentence	45.77 (64.45)	61.29 (73.62)	11.04 (21.32)
Jail Time Given	.809 (.392)	.932 (.268)	.558 (.495)
Sentence Within Range	.677 (.475)	.639 (.485)	.759 (.443)
Downward Departure	.315 (.490)	.352 (.477)	.223 (.416)
Downward Departure (Substantial Assistance)	.192 (.393)	.214 (.413)	.140 (.344)
Downward Departure (Judge Initiated)	.123 (.332)	.138 (.332)	.083 (.277)
Upward Departure	.0082 (.0923)	.0073 (.103)	.0088 (.0942)
Age	34.67 (10.38)	32.73 (9.75)	38.52 (11.99)
Male	.847 (.357)	.899 (.302)	.635 (.372)
Female	.153 (.359)	.101 (.103)	.265 (.445)
White	.367 (.479)	.258 (.444)	.542 (.497)
Black	.302 (.459)	.304 (.463)	.294 (.452)
Hispanic	.303 (.459)	.409 (.491)	.111 (.313)
Asian	.022 (.146)	.015 (.121)	.040 (.196)
Other	.018 (.133)	.019 (.137)	.013 (.113)
Citizen	.741 (.438)	.646 (.478)	.879 (.325)
Jury	.071 (.252)	.074 (.262)	.055 (.228)
Bench	.00085 (.0292)	.00077 (.0277)	.00098 (.0312)
Less than High School	.518 (.498)	.622 (.492)	.286 (.448)
High School	.413 (.492)	.347 (.476)	.554 (.497)
College	.054 (.225)	.025 (.159)	.115 (.319)
Advanced Degree	.018 (.134)	.0063 (.079)	.045 (.208)
No Dependents	.377 (.484)	.377 (.484)	.381 (.484)
One Dependent	.189 (.392)	.178 (.383)	.208 (.406)
Two Dependents	.175 (.380)	.170 (.376)	.181 (.385)
Three or more Dep.	.255 (.425)	.275 (.463)	.232 (.493)
N	370,959	257,269	108,277

\*"Serious Crimes" are defined as murder, kidnapping, sexual abuse, assault, bank and other robbery, extortion, arson, any drug crime, any firearm crime, burglary, auto theft, racketeering, immigration offenses, pornography offenses, offenses committed in prison, and "other violent offenses". With the exception of drug possession, these categories of crimes received jail sentences 85% of the time.

\*\*"Less serious" crimes are defined as larceny, fraud, embezzlement, forgery, bribery, tax offenses, money laundering, gambling, administration of justice offenses, environmental offenses, and property offenses. Crimes counted in neither are civil rights, environmental, national defense, antitrust, food & drugs, traffic violations, and miscellaneous offenses.

**Table 2: Offense Type and Distribution**

Offense Type	Number	Percent of Total	Cumulative Percentage
Murder	782	0.21	0.21
Manslaughter	455	0.12	0.33
Kidnapping/hostage taking	568	0.15	0.49
Sexual abuse	1,860	0.50	0.99
Assault	3,513	0.95	1.93
Bank Robbery	14,125	3.80	5.73
Other Robbery	1,091	0.29	6.03
Extortion	1,110	0.30	6.33
Arson	761	0.20	6.53
Drug Trafficking	156,920	42.23	48.76
Drugs: Comm. Facilities	3,120	0.84	49.60
Drugs: simple possession	3,987	1.07	50.67
Firearms: use	716	0.19	50.86
Firearms: poss/trafficking	21,898	5.89	56.76
Burglary	555	0.15	56.91
Auto Theft	1,299	0.35	57.25
Larceny	19,275	5.19	62.44
Fraud	49,858	13.42	75.86
Embezzlement	6,924	1.86	77.72
Forgery or Counterfeiting	8,173	2.20	79.92
Bribery	2,037	0.55	80.47
Tax Offenses	6,523	1.76	82.23
Money Laundering	6,923	1.86	84.09
Racketeering	3,186	0.86	84.95
Gambling	1,313	0.35	85.30
Civil Rights Offense	863	0.23	85.53
Immigration	35,871	9.65	95.18
Pornography or Prostitution	2,253	0.61	95.79
Offenses in Prisons	2,330	0.63	96.42
Administration of Justice	6,060	1.63	98.05
Environmental	1,151	0.31	98.36
National Defense	179	0.05	98.41
Antitrust	174	0.05	98.45
Food and Drug	478	0.13	98.58
Traffic Violations	121	0.03	98.61
Other Violent Crime	683	0.18	98.80
Other Drug	344	0.09	98.89
Other Firearms	224	0.06	98.95
Other Property	1,192	0.32	99.27
Other Environmental	731	0.20	99.47
Miscellaneous	1,869	0.50	99.97
Missing	107	0.03	100.00
Total	371,602	100.00	100.00

**Table 3: District-Level Judicial Demographics**

District-Year Variable	Mean (Standard Error)	Minimum	<i>Maximum</i>
Average Age	56.97 (2.58)	46.6	68.8
%Democratic Judges in District	39.1 (19.6)	0	100
% Female Judges in District	16.2 (14.0)	0	55.7
% Black Judges in District	8.04 (8.09)	0	50.00
% Hispanic Judges in District	7.92 (14.2)	0	100
% sentenced in Districts with any Democrats	93.5	0	100
% sentenced in Districts with any Female	66.7	0	100
% sentenced in Districts with any Black	59.6	0	100
% sentenced in Districts with any Hispanic	43.1	0	100
% Female judges if female defendant	15.8	0	55.7
% Black judges if black defendant	9.74	0	50.00
% Hispanic judges if Hispanic defendant	16.4	0	100

The percentages should be interpreted as the average percentage of female, black, or Hispanic judges in a district in which an offender was sentenced.



**Table 4: All Crimes**

<b>Dependant Variable</b>	<b>1 All</b>	<b>2 All</b>	<b>3 Departure</b>	<b>4 No Departure</b>	<b>5 No Alternate Possible</b>
<b>Female</b>	-7.61*** (0.37)	-7.60*** (0.88)	-9.12*** (1.18)	-2.77*** (0.53)	-11.41*** (1.11)
<b>Black</b>	4.72*** (0.36)	5.69*** (1.04)	4.72*** (1.50)	2.71*** (0.26)	4.71*** (1.05)
<b>Hispanic</b>	1.61** (0.65)	4.27*** (1.60)	2.44** (1.05)	2.70*** (0.82)	2.97** (1.29)
<b>Asian</b>	-0.55 (1.13)	-0.779 (1.12)	-2.17 (1.07)	1.24* (.704)	-2.19 (1.77)
<b>Other</b>	2.91 (1.92)	3.16 (1.91)	2.73 (3.34)	1.53 (.98)	4.97 (3.11)
<i>Average Age of District</i>	-0.032 (0.21)	-0.044 (0.32)	0.082 (0.184)	0.053 (0.12)	0.014 (0.036)
<i>Percentage Democrat</i>	-0.015 (0.032)	-0.016 (0.035)	0.083 (0.002)	-0.074 (.14)	-0.020 (.0057)
<i>Percentage Female</i>	-0.066 (0.043)	-0.043 (0.046)	0.051 (0.043)	-.013 (.032)	-.013 (.032)
<i>Percentage Black</i>	0.066 (0.082)	0.11 (0.085)	0.029 (0.074)	0.087 (0.060)	0.074 (0.051)
<i>Percentage Hispanic</i>	0.11** (0.052)	0.17*** (0.039)	0.11* (0.059)	0.091** (0.038)	0.13** (0.055)
<b>Black*%Dem</b>		-0.0012 (0.025)	-0.014 (0.027)	-.036* (0.019)	-.004* (0.012)
<b>Hispanic*%Dem</b>		0.0023 (0.035)	-0.0080 (0.027)	-0.0085 (0.026)	-0.031 (0.035)
<b>Female*%Dem</b>		-0.0032 (0.017)	0.018 (0.024)	-0.011 (0.013)	0.022 (0.019)
<b>Black*%Female</b>		-0.049 (0.042)	-0.058 (0.053)	-0.031 (0.034)	-0.015 (0.031)
<b>Hispanic*%Female</b>		-0.058 (0.041)	0.031 (0.036)	-0.092 (0.062)	-0.042 (0.042)
<b>Female*%Female</b>		0.064** (0.031)	0.075* (0.040)	0.043* (0.025)	0.090** (0.040)
<b>Black*%Black</b>		0.0032 (.068)	0.106 (0.122)	0.0012 (.041)	0.014 (.062)
<b>Hispanic*%Black</b>		-0.164** (0.074)	-0.021 (0.054)	-0.17** (0.080)	-0.098** (0.040)
<b>Female*%Black</b>		-0.099* (0.049)	-0.11 (0.073)	-0.025 (0.037)	-0.12* (0.059)
<b>Black*%Hispanic</b>		-0.049** (0.023)	-0.032 (0.033)	-0.0089 (0.014)	-0.032 (0.019)
<b>Hispanic*%Hispanic</b>		-0.050 (0.046)	-0.054 (0.044)	-0.024 (0.023)	-0.038 (0.034)
<b>Female*%Hispanic</b>		-0.008 (0.047)	0.016 (0.059)	-0.013 (0.014)	.083 (.062)

**Table 4 Continued: All Crimes**

(Variables Continued)	1 All	2 All	3 Departure	4 No Departure	5 No Alternate Possible
<b>Age</b>	0.35*** (0.72)	0.36*** (0.72)	0.35*** (3.39)	0.052 (0.053)	0.43*** (0.062)
<b>Age Squared/100</b>	-0.42*** (0.001)	-0.43*** (0.0012)	-0.52*** (0.001)	-0.0002 (0.0006)	-0.56*** (0.070)
<b>Citizen</b>	-1.75** (0.71)	-1.79** (0.72)	-3.39*** (0.55)	.90* (0.47)	-3.51*** (0.47)
<b>Jury Trial</b>	50.4*** (2.62)	50.4*** (2.6)	43.5*** (2.80)	15.7*** (1.23)	34.7*** (1.23)
<b>Bench Trial</b>	14.1*** (4.17)	14.1*** (4.17)	30.1** (11.6)	-.93 (3.20)	17.7*** (3.29)
<b>High School</b>	-1.75*** (0.21)	-1.75*** (0.20)	-1.87*** (0.25)	-.23 (0.21)	-2.07*** (0.21)
<b>College</b>	-2.44*** (0.33)	-2.47*** (0.33)	-1.91*** (0.53)	-.33 (0.26)	-3.39*** (0.39)
<b>Advanced Degree</b>	-2.10*** (0.45)	-2.13*** (0.46)	-2.22*** (0.59)	.44 (0.44)	-3.90*** (0.44)
<b>No Dependents</b>	0.62** (0.25)	0.63** (0.25)	0.17*** (0.35)	0.39 (0.25)	1.46*** (0.26)
<b>One Dependents</b>	-0.28 (0.29)	-0.27 (0.29)	-0.45 (0.38)	-0.15 (0.27)	0.24 (0.30)
<b>Two Dependents</b>	-0.25 (0.30)	-0.25 (0.27)	-0.48 (0.36)	0.19 (0.23)	0.012 (0.29)
<b>Constant</b>	107.3*** (16.0)	107.3*** (16.1)	117.2*** (20.9)	97.8*** (14.1)	234.8*** (23.4)
<b>N</b>	371,602	371,602	126,602	244,357	231,150
<b>R-Squared</b>	.7068	.7069	.5656	.8772	.7094
<b>Joint Test of Race %Hispanic Int.</b>		.0947	.5625	.4806	.0869
<b>Joint Test of Race %Black Int.</b>		.0561	.5961	.0017	.1234

\*\*\*coefficient significant at less than 1% level, \*\*coefficient significant at 5% level or less, \* coefficient significant at 10% level or less. All regressions include sentencing grid, district, judicial term, and offense type dummies, and a variable for statutory minimum sentence. Variables in italics are district-level variables.

**Table 5: Serious Crimes**

<b>Variable</b>	<b>1</b>	<b>2</b>	<b>3</b> <b>Offense Type</b> <b>Interactions</b>	<b>4</b> <b>No Drug</b> <b>Trafficking</b>	<b>5</b> <b>Drug</b> <b>Trafficking</b> <b>Only</b>
<b>Female</b>	-10.35*** (0.87)	-11.17*** (1.68)	-9.75*** (1.34)	-8.72*** (2.61)	-11.82*** (1.69)
<b>Black</b>	6.57*** (0.53)	7.96*** (1.32)	4.30*** (1.36)	4.37*** (1.66)	8.94*** (1.53)
<b>Hispanic</b>	2.28*** (0.76)	3.78** (1.69)	4.11** (1.94)	1.42 (1.88)	7.66*** (2.02)
<b>Asian</b>	-1.12 (2.03)	-1.25 (1.99)	-3.29 (2.06)	-6.35* (3.42)	-0.48 (1.45)
<b>Other</b>	4.08 (2.71)	4.35 (2.62)	4.48 (2.37)	-.58 (1.70)	2.90 (3.14)
<i>Average Age of District Judges</i>	-0.072 (0.26)	-0.12 (0.33)	-0.041 (0.25)	.34 (.32)	0.022 (0.065)
<i>Percentage Democrats</i>	-0.016 (0.052)	-0.021 (0.053)	-0.040 (0.095)	-.034 (6.45)	0.0033 (0.035)
<i>Percentage Female</i>	-0.074 (0.068)	-0.060 (0.068)	-0.14 (0.13)	.031 (8.32)	-0.14 (0.086)
<i>Percentage Black</i>	0.12 (0.11)	0.17 (0.12)	0.085 (0.25)	.16** (.080)	0.16 (0.18)
<i>Percentage Hispanic</i>	0.21*** (0.081)	0.29*** (0.070)	0.41** (0.20)	.34*** (.13)	0.19** (0.097)
<b>Black*%Dem</b>		-0.011 (0.029)	-0.014 (0.026)	-.027 (.029)	0.014 (0.039)
<b>Hispanic*%Dem</b>		0.027 (0.040)	-0.007 (0.044)	.072 (.053)	-0.018 (0.040)
<b>Female*%Dem</b>		-0.013 (0.027)	-0.013 (0.024)	.023 (.036)	-0.020 (0.031)
<b>Black*%Female</b>		-0.041 (0.048)	-0.016 (0.047)	-.019 (.057)	-0.050 (0.064)
<b>Hispanic*%Female</b>		-0.042 (0.053)	-0.034 (0.043)	-.11 (.085)	0.005 (0.045)
<b>Female*%Female</b>		0.13** (0.064)	0.12** (0.055)	.19*** (.062)	0.12* (0.069)
<b>Black*%Black</b>		0.012 (0.075)	0.061 (0.062)	-0.10 (0.079)	0.063 (0.091)
<b>Hispanic*%Black</b>		-0.12 (0.086)	-0.19** (0.097)	-0.019 (0.10)	-0.24*** (0.088)
<b>Female*%Black</b>		-0.18*** (0.070)	-0.21*** (0.088)	-.20** (.098)	-0.23*** (0.083)
<b>Black*%Hispanic</b>		-0.089*** (0.027)	-0.023 (0.024)	-.12*** (.036)	-0.11* (0.070)
<b>Hispanic*%Hispanic</b>		-0.10* (0.061)	-0.016 (0.042)	-0.12** (0.052)	-0.11 (0.075)
<b>Female*%Hispanic</b>		-0.078 (0.093)	-0.064 (0.062)	-0.071 (0.122)	0.089 (0.081)

**Table 5: Serious Crimes**

(Variables Continued)	1	2	3 Offense Type Interactions	4 No Drug Trafficking	5 Drug Trafficking Only
<b>Age</b>	.40*** (.72)	0.41*** (0.10)	0.37*** (0.091)	.080 (.15)	0.62*** (0.12)
<b>Age Squared/100</b>	-0.43*** (0.14)	-0.44*** (0.13)	-0.41*** (0.12)	-.30 (.17)	-0.73*** (0.22)
<b>Citizen</b>	-2.93*** (0.091)	-3.03*** (0.90)	-2.73*** (0.720)	-2.64** (1.01)	-2.90*** (0.89)
<b>Jury Trial</b>	62.9*** (3.77)	62.40*** (3.77)	55.4*** (3.77)	40.98*** (4.37)	67.99*** (4.13)
<b>Bench Trial</b>	17.96*** (6.26)	18.09*** (6.26)	17.2*** (6.35)	6.54** (3.19)	28.12** (11.49)
<b>High School</b>	-1.82*** (0.31)	-1.83*** (0.30)	-1.64*** (0.26)	-.028 (.523)	-2.48*** (0.36)
<b>College</b>	-4.61*** (0.70)	-4.65*** (0.70)	-3.72*** (0.70)	-2.31 (1.47)	-5.18*** (0.72)
<b>Advanced Degree</b>	-3.60*** (1.35)	-3.59** (1.36)	-1.02** (1.36)	1.57 (2.30)	-4.27** (1.97)
<b>No Dependents</b>	1.11*** (0.35)	1.12*** (0.34)	1.39*** (0.29)	2.57*** (.504)	0.17 (0.49)
<b>One Dependents</b>	-0.32 (0.44)	-0.32 (0.44)	-0.025 (0.36)	1.32** (.649)	-1.10 (0.60)
<b>Two Dependents</b>	-0.022 (0.004)	-0.033 (0.41)	-0.012 (0.33)	.81 (.634)	-0.30 (0.50)
<b>Constant</b>	116.3*** (21.1)	116.6*** (20.1)	125.34*** (23.14)	128.11** (20.4)	46.11** (20.4)
<b>N</b>	257,269	257,269	257,269	100,349	156,920
<b>R-Square</b>	.6445	.6446	.7442	.6639	.6874
<b>Joint Test of Race %Hispanic Int.</b>		.0022	.2982	.0006	.0014
<b>Joint Test of Race %Black Int.</b>		.3342	.0342	.4116	.0125

\*\*\*coefficient significant at less than 1% level, \*\*coefficient significant at 5% level or less, \* coefficient significant at 10% level or less. All regressions include sentencing grid, district, judicial term, and offense type dummies, and a variable for statutory minimum sentence. "Serious Crimes" are defined as murder, kidnapping, sexual abuse, assault, bank and other robbery, extortion, arson, any drug crime, any firearm crime, burglary, auto theft, racketeering, immigration offenses, pornography offenses, offenses committed in prison, and "other violent offenses". Variables in italics are district-level variables.

**Table 6: Less Serious Crimes**

<b>Variable</b>	<b>1</b>	<b>2</b>	<b>3</b> <b>Offense Type</b> <b>Interactions</b>
<b>Female</b>	-3.47*** (0.33)	-4.23*** (0.58)	-4.24*** (0.58)
<b>Black</b>	.91*** (0.28)	.73 (0.611)	.63 (0.66)
<b>Hispanic</b>	1.46*** (0.38)	2.66*** (0.82)	2.39** (0.83)
<b>Asian</b>	-.66 (0.45)	-.52 (0.45)	-.76* (0.43)
<b>Other</b>	.73 (.62)	0.84 (0.62)	.74 (0.62)
<i>Average Age of District</i>	.0014 (.084)	-.037 (.088)	-.039 (.078)
<i>Percentage Democrat</i>	.027* (.015)	.016 (.016)	-.009 (.014)
<i>Percentage Female</i>	-.036 (.024)	-.046* (.024)	-.062** (.028)
<i>Percentage Black</i>	.046 (.028)	.043 (.032)	.049 (.051)
<i>Percentage Hispanic</i>	.078 (.051)	.063 (.050)	.062 (.050)
<b>Black*%Dem</b>		0.002 (.012)	0.006 (.012)
<b>Hispanic*%Dem</b>		-.044** (.019)	-.043** (.020)
<b>Female*%Dem</b>		.017 (.011)	.017 (.011)
<b>Black*%Female</b>		.038* (.022)	.036 (.024)
<b>Hispanic*%Female</b>		.049 (.036)	.045 (.0351)
<b>Female*%Female</b>		-.014 (.016)	-.013 (.016)
<b>Black*%Black</b>		-.063** (.026)	-.060** (.025)
<b>Hispanic*%Black</b>		-.045 (.042)	-.041 (.043)
<b>Female*%Black</b>		.039 (.028)	.036 (.032)
<b>Black*%Hispanic</b>		.017 (.018)	.017 (.018)
<b>Hispanic*%Hispanic</b>		.022 (.024)	.014 (.023)
<b>Female*%Hispanic</b>		.006 (.017)	.002 (.015)



**Table 6 Continued: Non-Serious Crimes**

(Table 6 Continued)	1	2	3 Offense Type Interactions
<b>Age</b>	.29*** (.060)	.28*** (.059)	.26*** (.058)
<b>Age Squared/100</b>	-.42*** (.12)	-.43*** (0.13)	-.37*** (0.12)
<b>Citizen</b>	-4.88*** (0.32)	-4.87*** (0.32)	-4.92*** (.32)
<b>Jury Trial</b>	9.00*** (.69)	9.01*** (0.69)	8.96*** (0.68)
<b>Bench Trial</b>	4.58** (1.70)	4.56** (1.70)	4.71** (1.70)
<b>High School</b>	-1.35*** (.20)	-1.35*** (0.20)	-1.35*** (.20)
<b>College</b>	-2.02*** (.30)	-2.02*** (0.30)	-2.02*** (.30)
<b>Advanced Degree</b>	-2.00*** (.39)	-2.00*** (.39)	-2.02*** (.38)
<b>No Dependants</b>	1.52*** (.18)	1.49*** (.18)	1.44*** (.18)
<b>One Dependants</b>	.63* (0.24)	0.61** (.24)	.58** (.24)
<b>Two Dependants</b>	.010 (.23)	.086 (.23)	.075 (.23)
<b>Constant</b>	-33.2*** (5.35)	-35.3*** (6.31)	-27.2* (16.10)
<b>N</b>	108,277	108,277	108,277
<b>Pseudo R-Squared</b>	.4040	.4043	.4048
<b>Joint Test of Race %Hispanic Int.</b>		.2586	.4568
<b>Joint Test of Race %Black Int.</b>		.0482	.0681

\*\*\*coefficient significant at less than 1% level, \*\*coefficient significant at 5% level or less, \* coefficient significant at 10% level or less. All regressions include district, judicial term, and offense-type dummies, and a variable for statutory minimum sentence. Offense level and criminal history are controlled for by quadratics in offense level and criminal history and an interaction term between offense level and criminal history. "Non-Serious Crimes" are defined as larceny, fraud, embezzlement, forgery, bribery, tax offenses, money laundering, gambling, administration of justice offenses, environmental offenses, and property offenses. Variables in italics are district-level variables.

**Table 7: Probits on Jail Time**

<b>Variable</b>	<b>1 Any Jail Time (Serious)</b>	<b>2 Any Jail Time (Less- Serious)</b>
<b>Female</b>	-.62*** (0.039)	-.36*** (.033)
<b>Black</b>	.37*** (0.045)	.14*** (.050)
<b>Hispanic</b>	.40*** (0.042)	.24*** (.068)
<b>Asian</b>	-.075 (.046)	-.10*** (.034)
<b>Other</b>	.12** (.060)	.090* (.046)
<i>Average Age of District</i>	-.0049 (.0072)	-.0024 (.0072)
<i>Percentage Democrats</i>	-.00033 (.0010)	.0017 (.0013)
<i>Percentage Female</i>	-.0031* (.0019)	-.0007 (.0021)
<i>Percentage Black</i>	.0018 (.0026)	.0019 (.0020)
<i>Percentage Hispanic</i>	.0088*** (.0032)	.0067 (.0044)
<b>Black*%Dem</b>	-.00032 (.0011)	-.0022 (.0091)
<b>Hispanic*%Dem</b>	-.0029*** (.00093)	-.0038** (.0016)
<b>Female*%Dem</b>	.0016* (.00082)	.0011 (.00082)
<b>Black*%Female</b>	-.0026 (.0017)	.0030 (.0020)
<b>Hispanic*%Female</b>	.0024* (.0014)	.0027 (.0022)
<b>Female*%Female</b>	-.0021 (.0014)	-.0020 (.0015)
<b>Black*%Black</b>	-.0018 (.0020)	-.0076*** (.0021)
<b>Hispanic*% Black</b>	-.0048** (.0023)	-.0011 (.0036)
<b>Female*%Black</b>	-.00016 (.0025)	.0031 (.0020)
<b>Black*%Hispanic</b>	-.0041*** (.0012)	-.0018 (.0013)
<b>Hispanic* %Hispanic</b>	-.0020** (.0010)	.00086 (.0015)
<b>Female* %Hispanic</b>	-.00013 (.0017)	-.00236 (.0013)

**Table 7: Probits Continued**

<b>(Variables Continued)</b>	<b>1 Any Jail Time (Serious)</b>	<b>2 Any Jail Time (Less Serious)</b>
<b>Age</b>	.017*** (.003)	.022*** (.004)
<b>Age Squared/100</b>	-.030*** (.0011)	-.033*** (.012)
<b>Citizen</b>	-.76*** (.061)	-.48*** (.027)
<b>Jury Trial</b>	.62*** (.044)	.82*** (.039)
<b>Bench Trial</b>	.13 (.169)	.57*** (.187)
<b>High School</b>	-.24*** (.012)	-.15*** (.011)
<b>College</b>	-.36*** (.025)	-.23*** (.020)
<b>Advanced Degree</b>	-.29*** (.053)	-.16*** (.026)
<b>No Dependents</b>	.094*** (.018)	.12*** (.015)
<b>One Dependents</b>	.036** (.019)	.038** (.015)
<b>Two Dependents</b>	.0093 (.014)	.002 (.014)
<b>Constant</b>	2.96*** (.46)	.97** (.41)
<b>Sample</b>	Serious Crimes	Less Serious Crimes
<b>N</b>	250,349	107,172
<b>Joint Test of Race %Hispanic Int.</b>	.0057	.2682
<b>Joint Test of Race %Black Int.</b>	.1345	.0051

\*\*\*coefficient significant at less than 1% level, \*\*coefficient significant at 5% level or less, \* coefficient significant at 10% level or less. All regressions include sentencing grid, district, judicial term, and offense-type dummies, and a variable for statutory minimum sentence. Variables in italics are district-level variables.

**Table 8: Downward Departure Probits**

<b>Variable</b>	<b>1 Downward Departure (Serious)</b>	<b>2 Downward Departure (Less-Serious)</b>	<b>3 Downward Departure (Serious/Judge Initiated)</b>	<b>4 Downward Departure (Less-Serious/ Judge Initiated)</b>
<b>Female</b>	.45*** (.034)	.13*** (.031)	0.41*** (0.049)	0.38*** (0.043)
<b>Black</b>	-.22*** (.026)	-.16*** (.052)	-0.17*** (0.035)	-0.11** (0.055)
<b>Hispanic</b>	-.29*** (.069)	-.11 (.075)	-0.19** (0.089)	-0.11 (0.079)
<b>Asian</b>	-.034 (.050)	-.040 (.036)	-0.18*** (0.431)	-0.040 (0.040)
<b>Other</b>	-.29** (.11)	-.13** (.062)	-0.27** (0.12)	-0.16** (0.072)
<i>Average Age of District</i>	.101 (.189)	.097 (.170)	0.013* (0.008)	-0.0003 (0.007)
<i>Percentage Democrats</i>	-.0009 (.0007)	.001 (.008)	0.004 (0.25)	0.0002 (0.001)
<i>Percentage Female</i>	-.0031 (.0034)	-.0035 (.0022)	-0.0032 (0.041)	0.0015 (0.0025)
<i>Percentage Black</i>	-.0023 (.0027)	-.0031 (.0025)	-0.0041 (0.0031)	-0.0052* (0.0027)
<i>Percentage Hispanic</i>	.0027 (.0039)	-.0079 (.0063)	0.0029 (0.0032)	-0.0017 (0.0059)
<b>Black*%Dem</b>	-.0006 (.0006)	.0005 (.0011)	0.0001 (0.0007)	-0.0003 (0.0008)
<b>Hispanic*%Dem</b>	.0010 (.0012)	.0019 (.0018)	0.0016 (0.0015)	0.0016 (0.0014)
<b>Female*%Dem</b>	-.0003 (.0008)	-.0006 (.0007)	0.001 (0.001)	-0.0022*** (0.0008)
<b>Black*%Female</b>	.0018 (.0014)	-.0013 (.0021)	0.0024* (0.0014)	-0.0027* (0.0014)
<b>Hispanic*%Female</b>	.0031 (.0032)	-.0034 (.0031)	0.0045 (0.0028)	0.0005 (0.003)
<b>Female*%Female</b>	.0005 (.0020)	.0019* (.0011)	0.0009 (0.002)	0.0006 (0.001)
<b>Black*%Black</b>	-.0029 (0.0019)	.0024 (.0024)	-0.0019 (0.0019)	0.0046** (0.0022)
<b>Hispanic*% Black</b>	-.0001 (.0027)	-.0009 (.0044)	-0.0001 (0.0036)	-0.0041 (0.0040)
<b>Female*%Black</b>	.0016 (.0028)	-.0015 (.0018)	-0.0055 (0.0030)	0.0002 (0.002)
<b>Black*%Hispanic</b>	0.0027*** (0.0007)	-0.00096 (0.0014)	0.0022*** (0.00084)	0.0013 (0.0016)
<b>Hispanic* %Hispanic</b>	-0.0021 (0.0014)	-0.0022 (0.0024)	0.0020 (0.0019)	0.0026 (0.0021)
<b>Female* %Hispanic</b>	-0.0045** (0.002)	0.0017 (0.0011)	-0.0050** (0.0023)	-0.0003 (0.001)

**Table 8 continued: Downward Departure Probits**

(Variables Continued)	1 Downward Departure (Serious)	2 Downward Departure (Less Serious)	3 Downward Departure (Judge Initiated)	4 Downward Departure (Judge Initiated)
<b>Age</b>	-.020*** (.003)	-.028*** (.003)	-0.032*** (0.003)	-0.025*** (0.004)
<b>Age Squared/100</b>	.026*** (0.01)	.031*** (.012)	0.030*** (0.012)	0.031*** (0.009)
<b>Citizen</b>	.15*** (.037)	.13*** (.260)	-0.008*** (0.044)	0.39*** (0.033)
<b>Jury Trial</b>	-1.03*** (.039)	-.84*** (.043)	-0.43*** (0.031)	-0.33*** (0.034)
<b>Bench Trial</b>	-.38*** (.090)	-.50*** (.18)	-0.075 (0.096)	-0.24 (0.18)
<b>High School</b>	.10*** (.007)	.060*** (.014)	0.078*** (0.009)	0.10*** (0.016)
<b>College</b>	.23*** (.021)	.12*** (.021)	0.18*** (0.026)	0.15*** (0.023)
<b>Advanced Degree</b>	.206*** (.031)	.096*** (.031)	0.231*** (0.037)	0.133*** (0.030)
<b>No Dependents</b>	-.056*** (.010)	-.098*** (.015)	-0.024* (0.012)	-0.16*** (0.015)
<b>One Dependents</b>	-.013 (.009)	-.038** (.016)	-0.004 (0.010)	-0.084*** (0.017)
<b>Two Dependents</b>	-.002 (.008)	.009 (.016)	-0.006 (0.009)	-0.015 (0.019)
<b>Constant</b>	-.93 (.72)	-1.67*** (0.48)	-0.25 (0.77)	-0.95 (1.04)
<b>Sample</b>	Serious Crimes	Less Serious Crimes	Serious Crimes	Less Serious Crimes
<b>N</b>	246,578	82,219	190,569	67,532
<b>Joint Test of Race %Hispanic Int.</b>	.0001	.9984	.0241	.4582

\*\*\*coefficient significant at less than 1% level, \*\*coefficient significant at 5% level or less, \* coefficient significant at 10% level or less. All regressions include sentencing grid, district, judicial term, and offense-type dummies, and a variable for statutory minimum sentence. In the "Downward Departure" probits, all observations for which the guidelines permit no jail time are eliminated.