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AN ANALYSIS OF DRUG OFFENDERS
AND CONCURRENT JURISDICTION

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ABSTRACT

This paper presents a model of prosecutors' decision-making processes in which prosecutors (both federal and state) internalize some of the benefits of reducing crime, but also care about developing their own human capital. Since U.S. attorneys make their decision first, they have the opportunity to take the cases that will further their human capital development, knowing that the local district attorneys will handle the other cases. Using two surveys on prison admissions, we find that defendants who are better educated, richer, married, white, have higher-paying occupations, and have less extensive criminal records are more likely to be incarcerated in the federal system. Conversely, state prisons are more likely to incarcerate individuals who are particularly likely to be difficult prisoners, despite the supposed advantages of federal prisons in dealing with the most dangerous criminals.

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I. Introduction

Substantial research has found that discretion in the criminal justice system allows actors such as judges and prosecutors to alter the impact of statutory sentencing reforms.¹ Despite the recent interest in this topic, relatively little work has been done formalizing the incentives faced by these individuals (for important exceptions, see Easterbrook, 1983, and Posner, 1995). In addition, although there is voluminous work on the optimal division of responsibilities between state and federal governments, little research has focused on how the state and federal criminal justice systems interact to provide actors with the incentives to allocate responsibility for criminal justice enforcement. These shortcomings of the existing literature may be important. Understanding the ultimate impact of changes in federal sentencing policy requires an understanding of the interactions between state and federal law, and between actors in the state and federal criminal justice systems.

This paper presents a model of federal (U.S.) and local district attorneys' decision-making processes. In the model, prosecutors select which cases to pursue. Both types of prosecutors seek to reduce crime, perhaps because of direct incentives or perhaps because a reputation as a crime fighter is helpful in running for higher office. Both types also care about potential careers in the private sector. These different incentives create a desire among prosecutors on the one hand to pursue the most dangerous criminals, and on the other hand, to pursue criminals who will bring them private returns. We refer to these two types of incentives and two types of cases as "crime reduction" and "private career concerns" cases and incentives.

U.S. attorneys are assumed to have the right of first refusal on all cases in the model. Furthermore, the U.S. attorneys know that if they turn down cases with particularly large social value, local district attorneys face incentives which will induce them to take on those cases. The fact that local district attorneys serve as the prosecutors of last resort for crime reduction cases

¹ This literature is reviewed in Kessler and Piehl (1997).

means that U.S. attorneys will be particularly attracted to private career concerns cases.

The model has several clear predictions. First, U.S. attorneys will specialize in prosecuting criminals who are likely to help them develop their own human capital. This means that they will prefer defendants who hire private attorneys. Local district attorneys will specialize in prosecuting criminals who are likely to cause social damage. Second, under certain conditions, increases in mandatory federal sentences will increase U.S. attorneys' incentives to take on crime reduction cases. Third, in states with higher returns to private careers, U.S. attorneys will be particularly attracted to private career concerns cases.

We explore the validity of the model by analyzing drug offenders, who in theory could be prosecuted by either state or federal authorities. Though there is concurrent jurisdiction over these offenses, federal jurisdiction is exercised relatively rarely. In this case federalism operates at the level of prosecution decisions rather than through legislation.

We use two separate data sources. First, we use data from the Surveys of Inmates of Correctional Facilities. These surveys enable us to examine a large set of recent prison admissions in both state and the federal systems. With these data, our objective is to determine the characteristics of individual inmates associated with confinement in a state prison as opposed to in the federal system. Second, we use the 1991 National Corrections Reporting Program (NCRP) data to investigate the characteristics of states associated with the federalization of criminal punishment.

The Surveys of Inmates of Correctional Facilities indicate that within the set of drug offenders, even controlling for crime type, federal inmates and state inmates look dramatically different. Federal inmates are older, richer, better educated, less likely to have criminal records, more likely to be managers and less likely to be in sales, and more likely to be white. To further investigate the predictions of our model, we take these explanatory variables and create an index of propensity to hire a private attorney, based on regressing hiring a private attorney on individual characteristics for those inmates in the state

system. We also generate a similar index of propensity to break the rules when in prison. With these indices, we find strong evidence that individuals confined in federal versus state prison are more likely to hire private attorneys and less likely to break the rules while in prison. Although these findings contradict anecdotes that suggest that the federal system incarcerates disproportionately difficult prisoners, these findings are consistent with the implications of our model of prosecutors' behavior.

Our analysis of the NCRP data provides little evidence that differences in punishment levels or other characteristics across states influences the extent of federalization or who is federalized. We do confirm some of our previous results, although we have many fewer variables. Still, we find that older, better educated and white criminals are more likely to be put in the federal system.

Finally, we examine differential federalization across states in which the returns to private legal careers differ. There are few available proxies for the returns to private legal practice, so we examine the effects of salaries because it is consistently available. Although the salaries paid to private attorneys do not influence the overall level of federalization, they do influence the type of criminal confined in the federal system. In those states with higher returns to private legal careers, for example, U.S. attorneys are more likely to incarcerate defendants who are more likely to be represented by a private attorney.

The paper proceeds as follows. Section II discusses the literature on the optimal division of state and federal responsibility, focusing on the optimal division in the area of criminal justice. Section III presents our model of incentives and prosecutors' behavior, and shows that even in a simple model with prosecutor's discretion, state vs. federal responsibility for criminal justice enforcement may not be allocated optimally. Sections III, IV, and V present our empirical results investigating the validity of our model, and Section VI concludes.

II. Optimal Federalization in the Criminal Justice System

The issues concerning federalization and localization of law enforcement actually represent two primary sets of questions. First, there is the optimal geographic scope of enforcement. Is it best to have local crime enforcement that is well connected to location-specific information and to local preferences for punishment, or is it best to have an impartial, national law enforcement system that internalizes all externalities? Second, there is the question of whether there should be two or even several, possibly competing, law enforcement bureaucracies or whether there should only be one.

There is a large literature on the costs and benefits of localization in legal studies, public finance and urban economics. A broad variety of forces argue that localization is preferable. These forces might justify why state control has been the norm and continues to be the norm in law enforcement.

First, following Tiebout, different state rules allow individuals to choose the level and type of law enforcement that they prefer. If we imagine that there is a continuum of law enforcement types ranging from systems that strongly protect "civil" rights but that weakly deter crime to systems that harshly punish crime at the expense of the individual freedom, then different states might offer different types of these legal systems, and individuals might choose the type of system that they prefer. Second, also following Tiebout, the ability of citizens to flee states provides an added mechanism for expressing individual preferences and also for protecting individuals from extremely negative government actions. Thus, localization of law enforcement provides stronger incentives for governments, and becomes important in cases where lawyers can choose jurisdictions (the criminals themselves also choose jurisdiction when committing the crime).

Third, government variety allows for a wide range of experimentation (e.g. Wisconsin as the laboratory of democracy) and this type of experimentation may yield information about new legal innovations and help improve the legal framework for everyone. Fourth, state legal provisions often create a greater connection between state attorney and local conditions. This may give the state attorney better knowledge of local conditions and may also mean that the attorneys' actions better reflect the desires of the state. Fifth, smaller legal systems may in some cases lead to less bureaucracy and state level law

enforcement may be less costly and cumbersome than large federal bureaucracies (while there may be these decreasing returns to scale, we now have no evidence that suggests their existence in this case).

In principle, the case for federal provision rests upon two forces: increasing returns to scale and cross-state externalities. Increasing returns to scale can take on several distinct forms. Some have argued that the U.S. prison system should specialize in providing prisons for the most dangerous criminals. These criminals may be sufficiently rare so that individual states cannot afford to build maximum security prisons for the few number of these criminals that each state possesses. Of course, this argument assumes that there are sizable scale economies in prison provision (which is not obviously true), and that states cannot cooperate either with each other or with a private provider so that several states could share a single maximum-security prison.

Alternatively, there may be returns to scale in prosecution activities. Federal attorneys may get a broader range of experiences or the Department of Justice may be able to better match attorneys with cases because they work on a larger scale. An example of this might be that particularly skilled attorneys are needed for the toughest cases and that very tough cases are sufficiently rare at the state level so that states cannot efficiently hire sufficiently skilled attorneys to handle these cases.

Cross-state externalities provide the second rationale for federal provision of justice. These externalities might occur when criminals escape prisons. Escaped criminals might perpetrate crimes and inflict social costs across state lines. No individual state will internalize this possibility when choosing behavior. More generally, if criminals commit harm to several states, individual states will only consider their own costs and benefits not the costs and benefits to other states. A second form of externality occurs because states can reduce crime both through creating an overall reduction in crime and through inducing the crime to migrate elsewhere. Since this migration elsewhere creates externalities, this view suggests that individual states will work too hard on crime prevention and federal intervention can reduce local crime prevention to efficient levels. The importance of this force can be

judged by the extent that we believe that the federal system focuses on criminals who act across state lines.

The previous discussion has focused on the benefits of federal versus state provision. Another debate concerns whether there should be a single or multiple providers of justice. In other words, when there are two judicial agents do we get the efficiency associated with competition or less optimal outcomes? There are some well-known cases where multiple authorities can either be good or bad. If either jurisdiction can acquit, then multiple jurisdictions may ensure that it is less likely that the innocent will be imprisoned or alternatively that a single jurisdiction will use its power to manipulate its citizens. If either jurisdiction can prosecute, then multiple jurisdictions eliminates some civil protections but makes it less likely that the guilty will be set free. Both situations exist in the United States. (i.e., the Supreme Court can free someone convicted by a state court and the state attorney can try someone whom the U.S. Attorney failed to try). The desired level of prosecution relative to acquittal, which is needed to judge these systems, is not obvious.

Other pros and cons of multiple systems also exist. Multiple systems will have incentive effects on each other, some of which will be explored in the following model. The presence of another jurisdiction, which might acquit a case that you have prosecuted, makes it less appealing to lavish effort on a particular case. The presence of another jurisdiction, which might also prosecute, lowers the incentives to take any particular difficult case, because the other jurisdiction might take it on itself. Only when the two jurisdictions actually compete for scarce resources, which are allocated on the basis of social output, are the strongest benefits from competition likely to be reached. Such competition seems most likely to occur as part of the design of specific incentive schemes (i.e. people judge local district attorneys relative to federal attorneys) rather than as a natural outcome of the political and judicial process. The following model examines what happens when there are two prosecutors who choose whether or not to prosecute cases consecutively.

III. A Model

This model examines the advantages and costs of having a two tiered prosecution system. In our model, there are two prosecutors: a U.S. attorney, who enforces federal law, and a local district attorney, who enforces state law. Both of these prosecutors have discretion over whether to take a case, but the U.S. attorney gets to decide first.² If the U.S. attorney turns down the case, then the state attorney must take it or the case will not be prosecuted.³

The Supply of Crimes and the Level of Punishment

We assume that there are a continuum of similar cases of type z , and a supply of each type of case which is denoted Q_z . In equilibrium, the supply will be a function of the expected punishment (denoted Δ), which is a function of the probability of being arrested (which is exogenous to the model and denoted π_z^A), the probability of conviction (which will be a function of the prosecutors' actions) and the total length of sentence (which is also exogenous and denoted L_z^F in a federal court and L_z^S in a state court). The social damage done by each crime is D_z , so the total social costs of crime are $\int_z Q_z D_z dz$.

The number of cases tried by the U.S. attorney will be N_z^F and the number of cases tried by the state attorney will be N_z^S . The U.S. attorney will succeed in convicting with exogenous probability π_z^F and the state district attorney succeeds in convicting with exogenous probability π_z^S . There is no double jeopardy in this model, i.e. despite the sequential nature of choices that we occasionally assume (i.e. the U.S. attorney moves first), the state attorney cannot try defendants who have been tried unsuccessfully by the U.S. attorney. Thus the total expected punishment for any criminal (denoted Δ) is:

²Recent legal research suggests that the U.S. attorney is the "first mover" in the game underlying the state/federal prosecution decision (see, e.g., Jeffries and Gleeson 1995, Hollon 1996, and Heller 1997).

³ While it is constitutional for charges to be filed in both jurisdictions, such dual prosecutions are rare in practice (fewer than 150 per year). It is a matter of policy that such dual prosecutions are to be brought only in exceptional cases (U.S. Department of Justice 1992, Section 9-27). This policy is known as the *Petite* Policy after the decision in *Petite v. United States*, 361 U.S. 529, 530-31 (1960) (per curiam).

$$(1) \quad \Delta = \frac{\pi_z^A (\pi_z^F N_z^F L_z^F + \pi_z^S N_z^S L_z^S)}{Q_z}.$$

As supply equals $Q_z(\Delta)$, we can differentiate to find with respect to the number of cases that one type of attorney (type i) handles, holding the number of cases handled by the other attorney fixed (this will be appropriate for the State attorney):

$$(2) \quad \frac{\partial Q_z}{\partial N_z^i} = \frac{\pi_z^A \pi_z^i L_z^i}{\Delta} \cdot \frac{\varepsilon_\Delta^Q}{1 + \varepsilon_\Delta^Q},$$

where $\varepsilon_\Delta^Q = \frac{\Delta}{Q} \cdot \frac{\partial Q_z}{\partial \Delta}$ which we assume from here on is a fixed parameter. As long as $|\varepsilon_\Delta^Q| > 1$ then the comparative statics are quite normal. Increases in the number of cases prosecuted will have a greater effect on criminal supply when sentence lengths are longer, or when prosecutors are more effective or when criminal supply is quite sensitive to expected punishment. In general, improvements in the effectiveness of one prosecutorial branch will lead to a reduction of the connection between cases prosecuted and the supply of crime for the other prosecutorial branch.⁴

The Incentives facing District Attorneys

Individual crimes effect the career concerns of each group of prosecutor. Career payoffs are based on where the prosecutor will work in the next period.

Prosecutors can enter two possible career paths in the next period. They can remain in public service, which includes both running for higher service and continuing as a prosecutor. The payoffs in public service is assumed to be a linear function of the social costs of crime or $\bar{\theta}_i - \theta_i \int_z Q_z D_z dZ$, for $i=F, S$, where these returns may also include the psychic benefits that the attorney gets from doing his job and stopping crime. Voters and the government may not be

⁴ Elasticities greater than one mean that by increasing the level of prosecution, crime will fall by so much that the total number of cases prosecuted will decline. Increases in the level of crime are explosive because they lead to even further increases in crime by lowering the probability of apprehension sufficiently. In this case, the equilibrium is unstable in the usual ad hoc sense.

fully maximizing social welfare, but that there is some connection between stopping crime and success as a district attorney. In particular, this model suggests that the public will reward attorneys for the prosecution of socially damaging crimes and care little about cases where there is little social damage.

Individuals may also enter private practice and successfully completing certain types of cases also generates "career capital" that will yield returns outside of the public sector $C = \int_z c_z^i \pi_z^i N_z^i dz$. There are at least two major forms of career capital: trial experience and connections with local attorneys in private practice (see, e.g., Eisenstein 1978, pp. 174-5). The probability of receiving a private offer is $\delta(C)$ and the financial returns from this private offer are $R(C)$. It is assumed that $R(C) > \bar{\theta}_i - \theta_i \int_z Q_z D_z dz$, so if an attorney receives a private offer he will take it.⁵

Finally, there are costs associated with each case. Most generally, we denote the cost function as $K_i(\tilde{N}_z^i)$, where \tilde{N}_z^i represents the vector of numbers of cases. The overall maximization problem is therefore:

$$(3) \quad \delta \left(\int_z c_z^i \pi_z^i N_z^i dz \right) R \left(\int_z c_z^i \pi_z^i N_z^i dz \right) + \left(1 - \delta \left(\int_z c_z^i \pi_z^i N_z^i dz \right) \right) \left(\bar{\theta}_i - \theta_i \int_z Q_z D_z dz \right) - K(\tilde{N}_z^i)$$

subject to $N_z^F + N_z^S \leq \pi_A Q_z$ (where λ_z^i is the multiplier on this constraint for attorney of type $i=S, F$). Attorneys understand that the supply of cases is a function of both their own and the other attorney's behavior. The U.S. attorneys, knowing that when they take cases, they may influence the number of cases taken by the local district attorney, will act strategically. State attorneys move last and will not have the opportunity to behave strategically. Their maximization yields the following first order condition:

$$(4) \quad c_z \pi_z^S \left[\delta R'(C) + \delta'(C)(R - V) \right] - (1 - \delta) \theta_i D_z \frac{\partial Q_z}{\partial N_z^S} = \frac{\partial K}{\partial N_z^S} + \lambda_z^S \left(1 - \pi_z^A \frac{\partial Q_z}{\partial N_z^S} \right).$$

⁵ This model abstracts from the important point that at some price attorneys can always choose to work in the private sector and assumes a fixed wage.

Local district attorneys will leave cases unprosecuted if these cases yield few career returns or have a very low probability of success. They will also ignore crimes which cause little social damage and where the supply of crime responds only slightly to incentives. Increases in the returns to private work, relative to public work, will increase the importance of career concerns.

This indifference condition (4) also suggests that there may be increasing returns to specializing in career-related cases or public good related cases. If the attorney specializes in public good related cases, then he will have a high probability of not moving to a private firm in the next period and his returns from career related cases are low. Alternatively, if he specializes in private cases, then he will be much more likely to move into private cases in the next period and the return to career related cases are high.

In the case of the U.S. attorney, we must differentiate between two types of cases. First, there are crimes where some cases will not be prosecuted at all and in this case, we approximate and assume that $\frac{\partial N_z^S}{\partial N_z^F} \approx 0$ (so the U.S. attorneys actions do not change the actions of the state attorney). In this case, the first order condition will be the same as (3), but with F replacing S whenever possible. Second, there are those cases, where no criminals are left unprosecuted and $\frac{\partial N_z^S}{\partial N_z^F} = -1$ (so every case taken by the U.S. attorney leads to one less case taken by the state attorney). In this situation, the first order condition for the U.S. attorney will be:

$$(5) \quad \begin{aligned} & c_z \pi_z^F [\delta R'(C) + \delta'(C)(R - V)] - (1 - \delta) \theta_i D_z \left(\frac{\partial Q_z}{\partial N_z^F} - \frac{\partial Q_z}{\partial N_z^S} \right) \\ & = \frac{\partial K}{\partial N_z^F} + \lambda_z^F \left(1 - \pi_z^A \left(\frac{\partial Q_z}{\partial N_z^F} - \frac{\partial Q_z}{\partial N_z^S} \right) \right) \end{aligned}$$

In general, there will be much less incentive for the U.S. attorneys to take on cases, because they know that if they don't the cases will taken on by local district attorneys. The only instance where there is a major incentive for the local district attorney occurs when $\pi_z^F L_z^F \gg \pi_z^S L_z^S$.

Because of the asymmetry stemming from the first mover advantage of U.S. attorneys, in general U.S. attorneys will be much more sensitive to career concerns (relative to crime reduction concerns) than state attorneys. They will act to develop human capital and possibly also make contacts. Furthermore, because there is a gain from specialization component in the model, the U.S. attorneys may end up specializing completely in private career concerns cases and the local district attorneys will end up in crime reduction cases.

Equation (5) implies that the establishment of tougher federal sentences should increase the tendency of U.S. attorneys to take cases because of their effect on crime, if mandatory sentencing guidelines only act to increase the average length of sentence. If sentencing guidelines also lower the probability of conviction (e.g., Andreoni 1992, because judges and juries are less likely to convict given the increase in penalty), then their effect will be neutral.

There are six major implications of the model. First, among crimes where all of the cases are prosecuted, U.S. attorneys will focus on cases where there are strong career concerns. State attorneys will get the cases with higher social returns that are less productive for non-governmental careers. This stems from the first mover advantage of U.S. attorneys. Second, U.S. attorneys will specialize in career-related cases and have a high probability of moving into the private sector. State attorneys will specialize in social welfare related areas and stay in the public sector for longer. Third, the tendency of U.S. attorneys to specialize in career-related cases will be higher when the pay outside of the government is high relative to pay inside the government. ⁶

⁶ Eisenstein (1978) suggests an alternative determinant of the tendency of U.S. attorneys to specialize in career-related cases: the extent of agency problems in the U.S. attorneys' offices. Specifically, he hypothesizes that chief U.S. attorneys are primarily interested in subsequent political (public service) careers, and therefore seek to maximize total payoff from public service in their office, e.g., the sum of their own and their assistants' payoffs from public service. However, assistant U.S. attorneys seek to maximize an objective function similar to the one that we specify, e.g., one that is a combination of payoffs from public service and career concerns. To the extent that a U.S. attorney has imperfect control over her assistants' choice of cases (even if a U.S. attorney has perfect formal control over assistants' choice of cases, informational asymmetries may weaken this control in practice), the assistants would be more able to devote themselves to accumulating career capital than they otherwise would.

Fourth, crimes that are not prosecuted by either type of attorney are those which have (1) low career returns, (2) little social damage associated with them, (3) little elasticity of criminal supply with respect to punishment, (4) low probability of success and (5) shorter sentences. Fifth, sentencing guidelines should act to increase the incentives of U.S. attorneys to specialize in public-safety related cases unless judges and juries undo the effects of these guidelines by making it more difficult to convict people under these new rules. These guidelines could cause a decrease in the tendency of U.S. attorneys to focus on private career and a greater tendency to stay in government.⁷ Sixth, increases in the randomness of criminal behavior should cause a decrease in the tendency of either type of attorney.

IV. Analysis of Surveys of Inmates of Correctional Facilities

We begin our exploration of the validity of the model with analysis of microdata from the Surveys of Inmates of Correctional Facilities. We use the individual data to compare the attributes of state and federal prisoners and to examine whether federal prosecutors pursue defendants who are likely (1) to be particularly disruptive inmates, (2) to produce contacts with private attorneys, or (3) to provide trial experience.

The data come from two surveys of prison inmates collected by the Bureau of the Census for the Bureau of Justice Statistics in July 1991: the Survey of Inmates of Federal Correctional Facilities (1991) and Survey of Inmates of State Correctional Facilities (1991). The two surveys are essentially the same, though the sampling frames are different, and federal inmates are over-sampled relative to state inmates. The surveys record a broad range of information from a sample of inmates on a given day. Questions cover individual characteristics; current offense and sentencing; criminal history; involvement with guns, drugs, and alcohol; and experiences during the current term of incarceration.

⁷Of course, this implication is tentative, because the government could adjust θ_f so that the same incentives remain. (If government work is actually a tournament then θ_f must fall as sentence length rises.)

We have limited the sample in a number of important dimensions. We were interested in only those inmates with new offenses that could conceivably have been prosecuted in either federal or state court. Therefore, we included only those offenders with new drug offenses. This required us to drop those with no sentencing information, those who violated probation or parole without committing new offenses, and those who were convicted of offenses other than drug violations. Non-citizens are also omitted from the sample due to concerns about differential treatment by the federal system.

For most analyses, we only included those who had been incarcerated for less than two years. We did this for two reasons. First, we wanted to be sure that our sample was from the "post-guidelines" era. Second, we wanted to limit the extent of survivorship bias (the excessive contribution to the estimates of those incarcerated for long terms).

Table 2 shows the means of our variables for drug offenders from the Surveys of Inmates.⁸ We have divided the survey into inmates in federal prisons and inmates in state prisons to look for any patterns in the types of criminals who are selected into the federal and state systems. Since we are only looking within the category of drug crimes, which can almost always be prosecuted on either the federal or the state level, we believe that we will avoid most of the most obvious effects coming from the different crimes that fall into the state and federal systems.

Overall 12.2 percent of our prisoners are in federal prisons. This should be compared with our 1990 figures for Table 1, which show that 16.8 percent of drug inmates during that year were incarcerated in federal prisons. The discrepancy is accounted for by the fact that we are looking at relatively short-term prisoners (i.e., individuals who were incarcerated no more than 24 months before the date of the survey) who fall disproportionately into state systems.

⁸ For some variables, values were imputed for the probits in order to retain observations. The imputed values are not included in this table. (A total of 657 observations have one or more variables imputed for the most comprehensive specification.)

The first panel of Table 2 shows the basic demographic differences between state and federal inmates. Federal inmates are older, slightly more likely to be female, much more likely to be white (60.9 percent vs. 37.1 percent), more likely to be Hispanic, more likely to be currently married and less likely to be never married. In every one of the cases, the differences are strongly statistically significant. Perhaps the most striking difference are the race and marriage effects where married white men are much more likely to end up in the federal system than single non-whites.

The second panel examines education, income and occupation. Federal inmates are much better educated than state inmates. For example, only 27.7 percent of federal inmates are high school dropouts whereas 46.3 percent of the state inmates are high school dropouts. Furthermore, federal inmates were much more likely to have worked (pre-arrest) and when they worked they were managers or technical workers rather than service workers. The annual income of the federal individuals is more than 25 percent higher. In general, the federal criminals were much less likely to admit to having illegal income, either because they actually didn't have illegal income or because of reporting reasons.

When we examine the attributes of the current term, there are also significant differences. The federal prisoners are more likely to be convicted of trafficking (perhaps because traffickers cross state boundaries more often) and less likely to be in on possession offenses. Of course, the current term sentence may differ from the actual crime committed. If local district attorneys are more likely to plea bargain, we wouldn't be surprised to find more traffickers in the federal system because it is the tougher sentence. The federal prisoners are less likely to have an additional offense and despite the guidelines, have a similar average sentence.

Although the sentence lengths are similar, the expected time served is very different. This is because the federal system requires inmates to serve at least 85% of their sentences, while state systems generally require much less. The average percentage of sentence served for drug traffickers released from prison in 1994 was 38% (Langan and Brown 1997). Applying these percentages to our data, the mean "expected time served" is 41 months for state inmates

and 88 months for federal inmates. The federal prisoners were also much less likely to plead guilty at their trial, which supports the plea bargaining hypothesis or suggests that the richer and white federal prisoners have better access to quality legal representation.

Since the career advantages of taking a case depend upon facing an opponent who could either help develop your human capital or help spread your reputation, we would expect the federal attorneys to face criminals with many more outside attorneys and indeed they do. The proportion of federal inmates who hired an outside attorney is 51.6 percent. The comparable proportion of state inmates is 28.5 percent.

While a defendant who hires an outside attorney appears to offer the best opportunities for human capital development, a defendant with many prior offenses probably offers the highest social gains from imprisonment (except if individuals with few prior offenses are just particularly good at evading arrest). Federal prison inmates are much less likely to have broken rules in prison. Federal prison inmates are also much less likely to have had a previous violent offense or a previous offense in general. The mean number of times served (for both major and minor offenses) by inmates prior to their current term in the federal system is one third of the comparable number in the state system (perhaps because the U.S. system criminals are more effective at evading arrest). The state inmates are more likely to have used drugs, have started using drugs at an early age, to have had a family member serve time, or to have been in a mental hospital. Federal inmates are more likely to have owned a gun, and gun ownership is generally associated with relative successful people, not with destitute criminals (see Glaeser and Glendon, 1997).

Overall, we find these descriptive statistics quite provocative. Federal criminals are white, married, richer, better educated, more likely to hire an attorney, less likely to break the rules and less likely to have prior offenses. It appears that the U.S. attorneys are not choosing individuals who are more likely to be repeat offenders or difficult to imprison. Instead they are choosing the wealthier, more prestigious set of criminals who are more likely to have private lawyers. Of course, it is possible that this selection is being caused by

benign motives and the superior ability of U.S. attorneys to handle more difficult cases.

Table 3 presents our first regression results. The basic regression format is to run a probit regression where being in the federal (vs. the state) system is the dependent variable. In this way, we are examining which variables induce the probability of ending up being prosecuted by federal vs. local district attorneys. Of course, we cannot know the conviction rates of these two types of attorneys and how they differ by criminal type. So our work combines the effects of the decision to prosecute and the success probability.

The first column of the table shows results only for demographic variables and education. Our strongest variables are race. Whites are 7.5 percent more likely to end up in the federal system, which is a huge effect given that the federal system accounts for only 12.2 percent of our inmates. The never married are also much less likely to be federalized-- the effect is 6.5 percentage points. Additionally, schooling is also a strong determinant of the likelihood of being federalized, with college graduates being wildly more federalized than high school dropouts (20.5 percent).

The next column includes controls for occupation and income. The manager variable significantly predicts being a federal prisoner and having income over \$50,000 also predicts being in a federal prison. Finally, individuals who report earning most of their income from illegal sources are less likely to be federalized.

Finally, the third column reveals the effects of the characteristics of current term, criminal history and other past behavior. Federalization is positively associated with trafficking (vs. possession), never having used drugs, age at first drug use and having ever owned a gun. Being a federal prison inmate is negatively associated with having one or more additional offenses at the time of sentencing, having a previous offense or a violent previous offense, the number of times serves as a minor and having been in a mental hospital. Most of the basic correlations stay strong and close to their initial estimates when we include these added controls. The effect of being a college graduate declines about 50 percent, but still stays quite strong.

We are particularly interested in our variables that capture breaking the rules in prison and hiring an outside attorney. Criminals who have characteristics associated with breaking the rules are both more difficult to incarcerate and therefore are natural choices for the higher quality, maximum-security federal prison system) and, arguably, more likely to be socially damaging after release from incarceration. Prisoners who break rules in prison may be more likely to break laws after release (except if non-rule breakers are just smarter).

The first three specifications in Table 4 regressions show results for “rule breaking.” The first probit shows results only for demographic and education variables, also controlling for length of time in prison (since longer time periods presumably allow for more time for rule infractions). The demographic results show that age is negatively associated with rule breaking, and being never married is strongly positively correlated with rule breaking.⁹ The second regression includes current term and criminal history controls. None of our basic results change and, in this regression, having a previous offense positively influences rule breaking. The third regression includes more occupation, income and past behavior controls. Income enters positively in rule breaking, having used drugs, family members who have served time and owning a gun both positively influence breaking the rules.

In general, many of the same features associated with federalization are also negatively associated with breaking the rules. For example, the marriage, race, previous offense, family members having served time and drug variables both predict rule breaking and being in a state prison. At this point, it appears that the states are being stuck with the prisoners more difficult to handle, and perhaps (as the model suggests) those prisoners who are also more likely to be dangers to society.

Regressions (4)-(6) show results where hiring a private attorney is the dependent variable. Regression (4) shows strong results on the basic demographics and education controls. People who are older, white, ever married and better educated are much more likely to hire an attorney. These

⁹ Our finding that women have more rule violations than men is common in the literature. It is generally found that women’s violations are more numerous, more trivial, and more severely punished (McClellan 1994).

results are quite robust across our three regressions. Regression (5) includes current term and criminal history variables. Traffickers are slightly more likely to hire an attorney as are people who were armed during the crime. Individuals with previous offenses, despite the higher penalties that they face, are still less likely to hire a private attorney. Regression (6) includes occupation, income and post behavior variables. Individuals who are managers, with higher income, who have never use drugs and have owned a gun are more likely to use a private attorney.

In this case, the match is between the variables that predict federalization and the variables that predict hiring an outside attorney. Race, age, marriage, education, income, prior offenses, drug use and gun ownership all simultaneously predict federalization and using a private attorney. To eliminate the possibility that this coincidence occurs because these individual know that they will be facing tougher U.S. attorneys and react accordingly, in the next section we perform these regressions using data from only state inmates.

Since the previous evidence is hard to boil down to a single result, we have created indices of likelihood to be a "rule breaker" or to hire an attorney. These indices were formed with the regressions from Table 4, where we used the coefficients from the state prisoner regressions to create predicted values of "rule breaker" and "attorney" for everyone from both samples. Thus, for individuals in the federal system we are creating the predicted probability that this individual would have used a private attorney if he had been part of the state system. In Table 5, Panel a we use the predicted values from Table 3, columns (2) and (5) which are regressions run without past behavior, income and occupation controls. In Table 5, Panel b, we use the predicted values from Table 3, columns (3) and (6) which represent regressions run including all of our controls.

The first regression in Panels 5a and 5b show the strong positive effect of predicted "attorney" and the strong negative effect of predicted "rule breaker." It appears that there is a strikingly powerful effect of being likely to hire an attorney on being imprisoned in a federal prison. These results should not be surprising. Tables 2 and 3 already documented that the same sorts of

criminals who were incarcerated in federal prisons are also more likely to hire an outside attorney and less likely to break rules while in prison. The coefficients are both statistically significant and economically important (a 20 percent increase in the probability of hiring an attorney leads to an at least 6 percent increase in the probability of ending up in a federal prison). The second regressions in the two panels introduces more control variables and documents that our results are not the result of current term variables (e.g. trafficking vs. possession) or criminal history. Our results get only slightly smaller when we include those controls as well.

The third regression includes demographic, and education, income and occupation controls as well. In this case, in Panel 5a all of our identification is coming off of the probit functional form, and as one might expect our results lose significance. In Panel 5b, we still have identification from other past behavior (gun ownership, family members serving time, mental hospital, and drug use) and we still find strong results in this case. We believe that this finding-- drug criminals in federal prisons are much more likely to be people who hire private attorneys and much less likely to be people who break prison rules-- is a powerful and robust result. Of course, the interpretation is not as clear. This result could represent career concerns of U.S. attorneys, but it could also represent U.S. attorneys maximizing social welfare by trying to prosecute the most difficult cases.

We also tested the hypothesis that it is trial experience rather than association with private attorneys that motivates U.S. attorneys. We performed the same prediction exercise for "went to trial" as we did for "rule breaker" and "attorney." The results are as expected: characteristics that are predictive of going to trial (in state jurisdiction) are positively associated with being in a federal prison. However, the predicted values for "went to trial" are highly correlated with those of "private attorney." When the two predicted values are included in the same equation, the effects of "attorney" are much larger and of greater statistical significance.¹⁰

¹⁰ These results are available from the authors.

In a further investigation of the general results, we re-ran all of the analyses on a sub-sample of only drug possession offenders in an attempt to abstract from the highest profile cases (e.g., prosecution of drug kingpins). Among possession offenders, all of the results are maintained (though at necessarily lower levels of statistical significance).¹¹ Thus, it does not appear that federal efforts to attack the highest levels of drug trafficking organizations are driving our results.

The final three regressions of Table 5 test the hypothesis that these incentives may have changed with the introduction of mandatory sentencing guidelines. The model suggested that the imposition of mandatory sentencing guidelines should act to increase the incentives of U.S. attorneys to take cases that reduce crime at the expense of crimes that further career concerns.

To test this hypothesis we look at prisoners who were arrested before and after the guidelines. Unfortunately, the prisoners who were arrested earlier have also been in prison longer and as such are hardly a random sample of arrested individuals. Indeed, overall the pre-guidelines prisoners are much more likely to be federal prisoners because of longer time served in the federal system. Our interest is in the interaction of the guidelines and our predicted values of "rule "breaker" and "attorney."

In both cases, we find no significant interaction. We have difficulty distinguishing whether this absence of an interaction occurs because of data difficulties, or because probabilities of conviction decline as penalties rise (as described above) so that the guidelines really don't change the incentives for the U.S. attorneys to prosecute, or because the U.S. attorneys just don't internalize any of the effect of convictions on crime rates. The connection between federalization and either of our two key variables does not seem to have changed with mandatory sentencing guidelines.

V. Analysis of NCRP Data

¹¹ Again, these results are available upon request.

As discussed earlier, we do not have adequate information from the prison inmate survey to actually determine the states where the federal inmates were arrested. As such, it is impossible to examine the extent to which state characteristics, such as differential punishment levels, contribute to the level of federalization among drug offenders. However, the National Corrections Reporting Program collects information on state and federal prisoners, including information on the state of arrest, from the populations confined in correctional institutions.¹² The data cover all admissions to state and federal prisons during the calendar year 1991. Since participation by states is voluntary, we have a census, but for a subset of states.¹³ Note that there are some inconsistencies in the way the data are reported (different states report things differently), which require some compromises in implementation. As before, our data is on the individual level, but here we focus on state-level characteristics.¹⁴ In particular, we try to explain variation in federalization using attributes of the criminal justice environment in the state and proxies for private returns to prosecutors.

The first regression in Table 6 shows the results including both individual-level controls and state variables. The results confirm some of our prior findings on federalization and individual-level attributes. Whites and older individuals are more likely to be federalized.¹⁵ State-level attributes contribute little to this analysis. The mandatory sentences at the state level do little to explain the level of federalization. The failure to find strong effects of

¹² The NCRP is sponsored by the Bureau of Justice Statistics. The Bureau of the Census collects the data. We use the data for all prisoners admitted to state or federal correctional authorities. In 1991, 35 states, the Bureau of Prisons, the District of Columbia, and the California Youth Authority participated in the data collection effort.

¹³ Since the larger states all participate, most of the correctional population is in fact covered in the database.

¹⁴ Our standard errors are, of course, corrected for intrastate correlation.

¹⁵ This table does not include information on education since that variable is so poorly measured in this data set. More than 40 percent of the state admissions are missing this variable, but only 13.6 percent of the federal admissions are missing education information. However, the raw means in Appendix Table 1 do confirm that federal admissions are much more likely to be high school graduates or college graduates, although there is an unusually low number of federal prisoners with some college (we suspect a coding error). When education is included in federalization regressions, it is not significant. Overall, we believe that this is more likely the result of data problems than a true null relationship between education and federalization.

state mandatory sentences¹⁶ can either be interpreted as meaning that we have measured their effects poorly or that the federal prosecutors do not internalize the effects of their actions that reduce crime. Other controls such as state-level judicial expenditures, the number of state prosecutors or the overall crime rate all add little explanatory power. Though the effects are generally not statistically significant, it is interesting that the number of state prosecutors per capita and the number of U.S. attorneys per capita always operate in opposite directions.

The second regression adds a variable to capture the average earnings of lawyers in the state. This variable is meant to capture the returns to private legal practice relative to public service. The assumption needed to justify this is that public returns are only imperfectly indexed to state attorney fees. Unsurprisingly, the variable does not affect the overall level of federalization. It also has little impact on the estimates for the other variables.

Our primary test of the model depends on whether the composition of admissions is affected by the extent of private returns for U.S. attorneys. We have two candidate measures. First, our theory predicts that when private salaries are higher, U.S. attorneys will be particularly focused on career concerns and will only face prisoners who are likely to hire private attorneys. Second, Eisenstein (1978) suggests that as the number of assistant U.S. attorneys increases, the degree to which the office as a whole seeks private gains (relative to public service) increases.

We have only one variable which is reliable and strongly connected with hiring a private attorney in the data set: nonwhite. This race variable was strongly correlated with hiring a private attorney, where nonwhites were much less likely to hire private attorneys. To test the theory, we interact this variable at the individual level with the state average lawyers' salaries and, separately, with the number of U.S. attorneys in the state. The results of including these interactions are presented in the final three columns of Table 6.

¹⁶ In some specifications, the coefficient on having a tough minimum sentence for drug offenses is statistically significant. Though the coefficient is generally negative, its statistical significance is quite fragile to specification and sample.

Column (3) shows the results of including the interaction of U.S. attorneys and nonwhite. As expected, there is a strong negative effect: as the number of assistant U.S. attorneys increases, the more the caseload under-represents non-white defendants (relative to the state system). Column (4) shows the effect of the salary/nonwhite interaction. Again, there is a negative effect of this interaction as the theory suggests that there should be (p-value=0.077). In states where the private salaries are higher, federal attorneys particularly shun nonwhite criminals. In column (5) the two interactions are entered together. Here, the effect of U.S. attorneys appears to dominate. It should be noted, however, that the number of U.S. attorneys and the average lawyer's salary are highly correlated ($r=0.26$, p-value <0.0001). The two interactions are jointly highly significant (p-value <0.0001).

These interaction effects are large. If private lawyers' salaries move from 50,000 to 100,000 dollars annually, the connection between nonwhite and federalization more than doubles in size (column 3). This implication was a primary test of our model and it suggests that the tendency toward federalization of crimes committed by white, better educated prisoners may indeed represent concerns for private sector careers, since this tendency is stronger in the areas where private sector careers are more remunerative. Likewise, if the number of U.S. attorneys (per million population) goes from 10 to 20, the connection between nonwhite and federalization nearly doubles in size.¹⁷ Thus, where the pursuit of private sector rewards is more possible, their effects are substantial.

VI. Conclusion

In this paper, we present three primary empirical findings, which are consistent with a simple model of career concerns and underscore the importance of understanding the incentives facing state and federal prosecutors. First, defendants who are more likely to hire a private attorney are more likely to be incarcerated in the federal prison system. Second,

¹⁷ Note that even if there were more non-whites in high salary states, this shift should change the overall composition of prisoners not the extent of federalization.

defendants who are less likely to break the rules in prison are more likely to be incarcerated in the federal prison system despite anecdotes that suggest that the federal system focuses on difficult prisoners. Third, these effects are larger in areas in which the returns from private practice are large. These findings are not driven by federal efforts aimed at the highest levels of drug trafficking.

The selection of high status individuals into the Federal system might be driven by the decision of U.S. attorneys to prosecute the most difficult cases in order to maximize overall social welfare. However, the results also fit our model of career concerns. Indeed, to the extent to which we could differentiate between the two models, in general the evidence favors the careers concerns view. However, future research will be needed to conclusively decide this issue.

This model and our results suggest that future research might focus on a considerably richer model of federalization than has previous work. Theories of the geographic dispersion of authority make little sense unless they directly incorporate the incentives that individuals within the system will face. For example, even if the federal system has an advantage in dealing with individuals who are likely to be difficult prisoners, because the career concerns of federal attorneys push them away from such prisoners, the federal system ends up with criminals who are far less likely to be rule breakers. One of the important challenges facing current federal sentencing policy is to account for the incentives of individuals with discretion so as to induce a socially optimal division of responsibility between states and the federal government for criminal justice.

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Table 1. Prison Populations and Admissions

	Inmates (stock)		Inmates (flow)		Drug Inmates (stock)		Drug Inmates (flow)	
	State	Federal	State	Federal	State	Federal	State	Federal
1985	451,812	27,623	183,131	15,368	38,900	9,491	24,200	N/A
1986		31,831	203,315	16,067		12,119		
1987		34,163	225,627	16,260		14,354		
1988		34,680	245,310	15,932		15,526		
1989		38,969	297,827	18,388		19,459		
1990	684,544	47,847	323,069	18,476	148,600	25,037	102,400	
1991		53,526	317,237	20,241		30,498	95,200	
1992		61,026	334,301	22,197		36,349	101,600	
1993		70,557	318,069	23,653		42,945	95,100	
1994		76,186	322,141	23,956		46,743	97,300	
1995	989,007	79,347	337,492		224,900	48,118	104,400	

Notes:

Authors' calculations from Federal Bureau of Prisons Quick Facts (www.bop.gov/facts.html#Drug); Correctional Populations in the United States, 1995; and Prisoners in 1996 (Mumola and Beck 1997).

"Flow" includes only new court commitments.

Table 2. Characteristics of Drug Offenders: Inmate Surveys
 Weighted Means
 (standard errors)

Variable	State & Federal		State & Federal		Variable	State & Federal	
	Federal	State	Federal	State		Federal	State
proportion federal	0.122 (0.004)	--	--	--			
<u>demographics</u>					<u>education, income and occupation (cont'd)</u>		
age at arrest	29.677 (0.183)	29.230 (0.205)	32.894* (0.253)		worked pre-arrest	0.637 (0.010)	0.626 (0.012)
female	0.093 (0.003)	0.092 (0.004)	0.108* (0.005)		manager / tech	0.202 (0.008)	0.183 (0.009)
white	0.400 (0.010)	0.371 (0.012)	0.609* (0.012)		service	0.192 (0.008)	0.201 (0.009)
Hispanic	0.191 (0.008)	0.187 (0.004)	0.221* (0.010)		laborer	0.572 (0.011)	0.578 (0.012)
currently married	0.226 (0.009)	0.203 (0.010)	0.391* (0.013)		no occupation	0.035 (0.004)	0.031 (0.004)
never married	0.568 (0.011)	0.598 (0.012)	0.352* (0.012)		annual income	12,123 (241.4)	11,831 (298.5)
					income top-coded (> \$50,000)	0.092 (0.006)	0.089 (0.007)
<u>education, income and occupation</u>					no illegal income	0.638 (0.011)	0.621 (0.012)
high school dropout	0.441 (0.011)	0.463 (0.012)	0.277* (0.011)		mostly illegal income	0.217 (0.009)	0.230 (0.010)
high school grad	0.387 (0.011)	0.380 (0.012)	0.440* (0.013)		some illegal income	0.073 (0.006)	0.076 (0.007)
some college	0.149 (0.008)	0.139 (0.008)	0.221* (0.011)		little illicit income	0.068 (0.011)	0.069 (0.006)
college graduate	0.024 (0.003)	0.018 (0.003)	0.062* (0.006)				

Table continues on next page.

Table 2. Continued. Characteristics of Drug Offenders: Inmate Surveys

Variable	State & Federal		State & Federal		Variable	State & Federal	
	State	Federal	State	Federal		State	Federal
<u>current term</u>					<u>criminal history</u>		
trafficking	0.656 (0.010)	0.637 (0.012)	0.793* (0.010)	0.793* (0.010)	previous violent offense	0.230 (0.010)	0.247 (0.011)
possession	0.372 (0.010)	0.392 (0.012)	0.232* (0.011)	0.232* (0.011)	previous offense	0.514 (0.011)	0.543 (0.012)
unspecified offense	0.035 (0.004)	0.036 (0.005)	0.025 (0.004)	0.025 (0.004)	times served: major	1.334 (0.062)	1.439 (0.071)
additional offense	0.232 (0.009)	0.244 (0.011)	0.141* (0.009)	0.141* (0.009)	times served: minor	0.437 (0.046)	0.476 (0.053)
sentence (months)	106.97 (2.388)	107.44 (2.695)	103.52 (2.541)	103.52 (2.541)	<u>other past behavior</u>		
armed	0.058 (0.005)	0.058 (0.006)	0.056 (0.006)	0.056 (0.006)	never used drugs	0.138 (0.007)	0.120 (0.008)
out less than 1 month	0.023 (0.003)	0.025 (0.004)	0.012* (0.003)	0.012* (0.003)	age at first drug use	17.103 (0.126)	16.846 (0.138)
days since admission	302.09 (4.232)	294.21 (4.765)	358.83* (5.127)	358.83* (5.127)	ever owned gun	0.362 (0.010)	0.344 (0.012)
probation or parole at arrest	0.392 (0.011)	0.426 (0.012)	0.148* (0.009)	0.148* (0.009)	family member served time	0.387 (0.011)	0.397 (0.012)
plead guilty / no contest	0.852 (0.007)	0.866 (0.008)	0.748* (0.011)	0.748* (0.011)	mental hospital	0.039 (0.004)	0.041 (0.005)
hired attorney	0.313 (0.010)	0.285 (0.011)	0.516* (0.013)	0.516* (0.013)			
broke rules	0.242 (0.009)	0.256 (0.011)	0.141* (0.009)	0.141* (0.009)	N	4025	2174
						1851	

Notes:
 Authors' calculations from the 1991 Survey of Inmates of State Correctional Facilities and the 1991 Survey of Inmates of Federal Correctional Facilities.
 * indicates that the mean for the state inmates is statistically significantly different from the mean for the federal inmates at the .05 level of significance.

Table 3. Determinants of Federal Prison for Drug Offenders: Inmate Surveys
Probits Reported as Changes in Probability
(robust standard errors)

	(1)	(2)	(3)		(1)	(2)	(3)
<u>demographics</u>				<u>current term</u>			
age at arrest	-0.005* (0.003)	-0.006* (0.003)	0.001 (0.002)	trafficking			0.055* (0.007)
age squared	0.001* (0.00004)	0.0001* (0.00004)	-0.00001 (0.00003)	additional offense			-0.036* (0.008)
female	0.017* (0.008)	0.019* (0.009)	0.009 (0.009)	armed			0.007 (0.016)
white	0.075* (0.009)	0.065* (0.009)	0.069* (0.009)	out less than 1 month			0.012 (0.025)
Hispanic	-0.016 (0.010)	-0.012 (0.010)	-0.014 (0.009)	<u>criminal history</u>			
never married	-0.065* (0.008)	-0.060* (0.009)	-0.043* (0.008)	previous violent			-0.022* (0.011)
<u>education, income and occupation</u>				previous offense			-0.042* (0.010)
high school grad	0.055* (0.009)	0.048* (0.009)	0.043* (0.009)	times served: major			-0.002 (0.002)
some college	0.091* (0.015)	0.064* (0.015)	0.054* (0.014)	times served: minor			-0.008* (0.003)
college grad	0.205* (0.046)	0.134* (0.042)	0.092* (0.036)	<u>other past behavior</u>			
worked pre-arrest		0.009 (0.009)	0.0001 (0.008)	never used drugs			0.088* (0.010)
manager		0.044* (0.023)	0.021* (0.009)	age at first drug use			0.003* (0.001)
service		-0.015 (0.010)	-0.017 (0.010)	ever owned gun			0.042* (0.009)
no occupation		-0.010 (0.022)	-0.016 (0.022)	family member served time			0.008 (0.007)
income (*1000)		0.0007 (0.006)	0.0003 (0.001)	mental hospital			-0.052* (0.018)
income squared (*1000)		<0.0001 (<0.0001)	<0.0001 (<0.0001)				
income top-coded		0.038* (0.016)	0.030* (0.014)	- Log Likelihood	1376.8183	1358.3120	1250.6036
mostly illegal income		-0.056* (0.012)	-0.035* (0.011)	N	4025	4025	4025

Notes:

Omitted categories are: high school dropout (education) and laborer (occupation).

Table 4. Determinants of Rule Breaking and Hiring an Attorney: State Inmates Only
Probits Reported as Changes in Probability
(robust standard errors)

	Rules (1)	Rules (2)	Rules (3)	Attorney (4)	Attorney (5)	Attorney (6)
<u>demographics</u>						
age at arrest	-0.018* (0.008)	-0.023* (0.008)	-0.027* (0.007)	-0.044* (0.009)	-0.030* (0.008)	-0.032* (0.008)
age squared	0.0001 (0.0001)	0.0002 (0.0001)	0.0003* (0.0001)	0.0006* (0.0001)	0.0004* (0.0001)	0.0004* (0.0001)
female	0.064* (0.023)	0.075* (0.025)	0.098* (0.029)	-0.035 (0.021)	-0.050* (0.021)	-0.028 (0.025)
white	-0.024 (0.024)	-0.029 (0.024)	-0.051* (0.025)	0.136* (0.027)	0.134* (0.028)	0.099* (0.029)
Hispanic	-0.017 (0.030)	-0.011 (0.030)	-0.002 (0.031)	-0.079* (0.029)	-0.069* (0.030)	-0.044 (0.031)
never married	0.058* (0.025)	0.057* (0.024)	0.067* (0.024)	-0.107* (0.026)	-0.095* (0.025)	-0.076* (0.026)
<u>education, income and occupation</u>						
high school grad	-0.027 (0.023)	-0.026 (0.023)	-0.033 (0.023)	0.079* (0.026)	0.081* (0.026)	0.054* (0.026)
some college	-0.052 (0.030)	-0.044 (0.030)	-0.037 (0.032)	0.230* (0.039)	0.205* (0.039)	0.126* (0.041)
college graduate	0.059 (0.082)	0.088 (0.097)	0.075 (0.087)	0.424* (0.087)	0.382* (0.090)	0.244* (0.095)
worked pre-arrest			-0.0001 (0.024)			0.038 (0.026)
manager			-0.051 (0.031)			0.120* (0.030)
service			-0.027 (0.028)			0.007 (0.031)
no occupation			-0.019 (0.053)			-0.015 (0.064)
income (* 1000)			0.006 (0.003)			0.007 (0.004)
income squared (* 1000)			<0.001 (<0.001)			<0.001 (<0.001)
income top-coded			0.086* (0.041)			0.187* (0.051)
mostly illegal income			-0.001 (0.032)			-0.097* (0.036)

Table continues on next page.

Table 5. Determinants of Federal Prison for Drug Offenders: Inmate Surveys
 Probits Reported as Changes in Probability
 (standard errors)

	(1)	(2)	(3)	(4)	(5)	(6)
Predicted "Rule Breaker" (column 2)	-0.311* (0.029)	-0.260* (0.031)	-0.316 (0.274)	-0.388* (0.067)	-0.305* (0.069)	-0.121 (0.270)
Predicted "Attorney" (column 5)	0.330* (0.024)	0.309* (0.033)	0.154 (0.183)	0.352* (0.050)	0.328* (0.055)	0.377 (0.196)
Predicted "Rule Breaker" * post guidelines				0.065 (0.076)	0.030 (0.077)	0.071 (0.076)
Predicted "Attorney" * post-guidelines				0.082 (0.057)	0.082 (0.056)	0.098 (0.055)
Post-guidelines				-0.140* (0.044)	-0.138* (0.044)	-0.159* (0.044)
Demographics			X			X
Education, income and occupation			X			X
Current term		X	X		X	X
Criminal history		X	X		X	X
- Log Likelihood	1330.1303	1309.9186	1299.0208	2022.8198	1986.5304	1964.6236
N	4025	4025	4025	5460	5460	5460
Predicted "Rule Breaker" (column 3)	-0.285* (0.025)	-0.248* (0.025)	-0.181* (0.043)	-0.364* (0.054)	-0.303* (0.054)	-0.296* (0.062)
Predicted "Attorney" (column 6)	0.304* (0.020)	0.279* (0.024)	0.239* (0.033)	0.327* (0.039)	0.297* (0.040)	0.233* (0.044)
Predicted "Rule Breaker" * post guidelines				0.053 (0.062)	0.021 (0.062)	0.057 (0.061)
Predicted "Attorney" * post-guidelines				0.042 (0.044)	0.039 (0.044)	0.047 (0.043)
Post-guidelines				-0.112* (0.034)	-0.108* (0.034)	-0.120* (0.035)
Demographics			X			X
Education, income and occupation			X			X
Current term		X	X		X	X
Criminal history		X	X		X	X
- Log Likelihood	1306.4129	1285.9989	1276.0598	1979.9879	1943.7767	1921.4624
N	4025	4025	4025	5460	5460	5460

Notes:

Survey was administered in July 1991. The post-guidelines period is defined as having been admitted after July 1989.

Table 6. Determinants of Federalization: NCRP Drug Offenders
Probits Reported as Changes in Probability
(standard errors)

	(1)	(2)	(3)	(4)	(5)
Female	-0.0161* (0.0075)	-0.0157* (0.0077)	-0.0163* (0.0074)	-0.0153 (0.0077)	-0.0156* (0.0077)
Nonwhite	-0.1564* (0.0237)	-0.1578* (0.0233)	-0.0101 (0.0361)	0.0421 (0.0920)	0.0874 (0.0559)
Age	0.0065* (0.0014)	0.0065* (0.0014)	0.0067* (0.0016)	0.0067* (0.0015)	0.0068* (0.0016)
Age-squared	-0.00003 (0.00002)	-0.00003 (0.00002)	-0.00004 (0.00002)	-0.00004 (0.00002)	-0.00004 (0.00002)
Tough maximum drug sentences	0.0123 (0.0424)	0.0169 (0.0421)	0.0098 (0.0428)	0.0129 (0.0426)	0.0117 (0.0429)
Tough minimum drug sentences	-0.0733 (0.0393)	-0.0822* (0.0380)	-0.0748 (0.0394)	-0.0813* (0.0385)	-0.0823* (0.0389)
Judicial expenditure per capita	0.0004 (0.0011)	0.0001 (0.0011)	0.0003 (0.0011)	0.0002 (0.0011)	0.0001 (0.0011)
# state prosecutors per capita	-0.0006 (0.0004)	-0.0007 (0.0004)	-0.0005 (0.0004)	-0.0007 (0.0004)	-0.0006 (0.0005)
# U.S. attorneys per capita	0.0075 (0.0055)	0.0059 (0.0052)	0.0124* (0.0059)	0.0066 (0.0052)	0.0107 (0.0057)
Violent crime rate per capita	-0.00009 (0.00008)	-0.00015 (0.0001)	-0.0001 (0.00008)	-0.0001 (0.0001)	-0.0002 (0.0001)
Property crime rate per capita	-0.000002 (0.00002)	0.000002 (0.00002)	0.000004 (0.00002)	0.000002 (0.00002)	0.000003 (0.00002)
Coke seized	-0.00006 (0.00004)	-0.00003 (0.00004)	-0.00006 (0.00004)	-0.00004 (0.00004)	-0.00004 (0.00004)
Population (millions)	0.0019 (0.0020)	0.0012 (0.0017)	0.0025 (0.0019)	0.0011 (0.0017)	0.0017 (0.0017)
Lawyer Salaries (thousands)		0.0028 (0.0024)		0.0039 (0.0026)	0.0034 (0.0019)
U.S. attorneys * Nonwhite			-0.0082* (0.0023)		-0.0071* (0.0024)
Salary * Nonwhite				-0.0029 (0.0016)	-0.0019 (0.0012)
- Log Likelihood	21564.820	21547.921	21437.167	21482.664	21396.441

Notes:

Authors' calculations from the NCRP 1991. State-level data come from Flanagan and Maguire (1992), Table 3.129 (crime rates); the U.S. Department of Justice (1991) (number of U.S. attorneys); Morgan et al. (1994) (expenditures, cocaine seized, population, state prosecutors). N=65,902.

* indicates the coefficient is statistically significant at the 5% level. Standard errors are adjusted for intra-state correlation.

Sample excludes those from states which did not participate and those without state prosecutor data. Resulting sample includes: AL, AR, CA, FL, GA, HI, IL, IA, KY, MD, MI, MS, NE, NV, NH, NJ, NY, NC, ND, OK, OR, SC, UT, VA, WA, WV, WI. Sample also excludes those observations without demographic data (age, race, sex).

Appendix Table 1. Characteristics: NCRP Admissions Data, 1991

	Overall	Federal	State
Female	0.121	0.115	0.122
Nonwhite	0.652	0.355	0.692
Age	30.51	34.19	30.02
High School Degree	0.189	0.423	0.158
Some College	0.034	0.013	0.037
College	0.007	0.024	0.005
Education Missing	0.379	0.136	0.412
Sentence Length (median, in months)	36	60	36
Trafficking	0.579	0.504	0.589
Possession	0.209	0.045	0.230
No Act Defined	0.212	0.451	0.181
Narcotics	0.419	0.895	0.356
Heroin	0.016	0.097	0.006
Marijuana	0.041	0.001	0.046
No Drug Defined	0.524	0.007	0.593
N	84,737	9,978	74,759

Appendix Table 2. Federalization Rates and Laws by State

State (N)	All Drug Offenders	Coke Traffickers		Coke Possession		Heroin Trafficking		Heroin Possession	
		max	min	max	min	max	min	max	min
Overall (84,737)	0.118								
AL (1576)	0.175		x	x			x	x	
AR (493)	0.223	x	x	x	x	x	x	x	x
CA (14053)	0.099		x				x		x
FL (12369)	0.118					x			
GA (3399)	0.086	x	x	x	x	x	x	x	x
HI (182)	0.478								
IL (4488)	0.091		x				x		
IA (320)	0.391								
KY (619)	0.223						x		
MD (2304)	0.061						x		
MI (2622)	0.150								
MN (431)	0.378								
MS (907)	0.105					x			
MO (1394)	0.207		x				x		
NE (401)	0.202	x				x			
NV (544)	0.081	x							
NH (177)	0.113								
NJ (4402)	0.025		x		x		x		x
NY (11479)	0.096								
NC (2813)	0.154								
ND (76)	0.408								
OH (6011)	0.051								x
OK (1095)	0.010	x	x	x	x	x	x	x	x
OR (225)	0.996							x	
PA (2280)	0.176								
SC (2198)	0.068								
SD (117)	0.470								
TN (1669)	0.182		x			x	x		
UT (93)	0.538								
VA (3298)	0.148	x	x	x		x	x	x	
WA (1735)	0.115								
WV (374)	0.872								
WI (593)	0.314								

Notes:

High maximum for trafficking is 30 years or more; high minimum is one year or more. High maximum for possession is 10 years or more; high minimum is one year or more.

First two columns come from authors' calculations from the National Corrections Reporting Program admissions data, 1991.

Information on the laws comes from The National Criminal Justice Association (1991).