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SALARIES, PLEA RATES, AND THE CAREER OBJECTIVES OF FEDERAL PROSECUTORS*

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Abstract

We examine the relation between local labor markets and the behavior of federal prosecutors. Empirical evidence is provided that assistant U.S. attorneys in districts with high private salaries are more likely to take cases to trial than are assistants in districts with low private salaries. We explain this finding as follows. In high-salary districts, government salaries are not competitive relative to the private sector. Therefore, federal prosecutor positions are sought by individuals who want the trial experience needed to secure desired private-sector employment. The following additional evidence further supports this explanation. First, the turnover of assistant U.S. attorneys is higher in high-private-salary districts than in low-private-salary districts. Second, individuals who leave their employment as assistant U.S. attorneys are of higher quality in districts with higher private-lawyer salaries. Third, assistant U.S. attorneys with more trial experience are more likely to take positions in large private law firms.

I. Introduction

It has been shown that case severity and trial cost affect whether a criminal case leads to a trial or a plea bargain.[1] We present empirical evidence that regional differences in private-lawyer salaries affect whether cases prosecuted by assistant U.S. attorneys are tried in court rather than settled through a plea bargain. Specifically, we show that drug-trafficking cases are more likely to be tried in high-private-salary districts than in low-private-salary districts. We also find that assistant U.S. attorneys in high-salary districts have higher turnover rates. Finally, assistant U.S. attorneys who leave the government

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[1] See Lucian Arye Bebchuk, Litigation and Settlement under Imperfect Information, 15 RAND J. Econ. 404 (1984).

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tend to have better qualifications in high-salary districts than in low-salary districts.

We interpret these findings as follows. In high-salary districts, lawyers seek government employment as a means of accumulating trial experience. Trial experience is beneficial because it enables lawyers in high-salary districts to gain employment in large, high-paying law firms. The private-sector opportunities in turn enable the government to attract lawyers of higher ability. These findings may be applicable to other government employees. Namely, the nonpecuniary value of government experience may help attract qualified applicants[2] but may also distort employees' decisions at work. In addition, our findings help explain why salary differences between private and public sectors persist in many professions.

In Section II, a simple model is developed in which an attorney makes decisions regarding career choice as well as effort to accumulate trial experience. On the basis of the model, several hypotheses are derived relating plea rates, government attorney turnover rates, and ability levels to regional salary differences. Section III presents the empirical evidence on plea rates, turnover rates, and ability differentials. Section IV provides empirical evidence that indicates that lawyers have more opportunities for trial experience in the government than in the private sector and that assistant U.S. attorneys with more trial experience secure better private employment. Further, evidence is provided to support the importance of the local legal labor market in the career path selected by a lawyer. Section V concludes.

II. Why Do Lawyers Work for the Government?

Previous studies have found that salaries of government lawyers are substantially lower than salaries of private-sector lawyers[3] and have offered two explanations for how such salary differences can be sustained. Burton Weisbrod[4] compares lawyers employed in the for-profit and the nonprofit sectors and concludes that individuals who take positions in public interest law have stronger preferences for nonpecuniary compensation (the "differential preference hypothesis"). Using the same data set, John Goddeeris[5] concludes that

[2] We thank our referee for pointing out this potential benefit to the government.

[3] See Sandra Guerra, The Myth of Dual Sovereignty: Multijurisdictional Drug Law Enforcement and Double Jeopardy, 73 N.C. L. Rev. 1160 (1995); Sherwin Rosen, The Market for Lawyers, 35 J. Law & Econ. 215 (1992); Jo Dixon & Carroll Seron, Stratification in the Legal Profession: Sex Sector, and Salary, 29 Law & Soc'y Rev. 381 (1995); and Ishak Saporta & Jennifer J. Halpern, Being Different Can Hurt: Effects of Deviation from Physical Norms on Lawyers' Salaries, 41 Indus. Rel. 442 (2002).

[4] Burton A. Weisbrod, Nonprofit and Proprietary Sector Behavior: Wage Differentials among Lawyers, 1 J. Lab. Econ. 246 (1983).

[5] John H. Goddeeris, Compensating Differentials and Self-Selection: An Application to Lawyers, 96 J. Pol. Econ. 411 (1988).

individuals who take positions in public interest law are less qualified for private-practice employment (the "differential ability hypothesis").

Anecdotal evidence, however, suggests that private law firms assign premiums to lawyers who have worked for the government, leading to a third explanation for why lawyers seek nonprofit employment, namely, to obtain experience valuable in the private sector (the "human capital accumulation hypothesis").[6] In addition to explaining why lawyers work for the government, the human capital accumulation hypothesis also explains why lawyers move between the public sector and the private sector.

These three explanations are formalized in a simple model in which we predict how the level of private salaries affects the composition, human capital accumulation, and turnover rate of government employees. The hypotheses are tested empirically on assistant U.S. attorneys, the government lawyers who prosecute cases for the federal government in 94 federal districts across the country. Unlike salaries in state and local government and the private sector, salaries of federal employees are relatively uniform across regions.[7] Thus, the regional variation in private-lawyer salaries leads to regional differences in how salaries for federal prosecutors compare with earnings of attorneys in the private sector.

In our model, an individual is of type 1 with probability p and of type 2 with probability $1 - p$. The two types differ with respect to whether government experience increases private-sector compensation and whether the individual receives intrinsic benefits from government employment. For type 1 individuals, government experience does not increase private salaries but offers intrinsic benefits g. For type 2 individuals, government work increases private salaries in the later period but does not offer intrinsic benefits. The private-sector productivity for individuals of both types is denoted by μ. The productivity and preference parameters μ and g are assumed to be positive and drawn independently from two separate uniform distributions. The distributions for g and μ are both assumed to be independent of the average private wage rate in the region w.

An individual who takes a position in the private sector in period 1 receives a salary of $w\mu$ in both period 1 and period 2. A type 1 individual who takes a position in government receives in each period a salary of zero and intrinsic benefits equal to g. Hence, a type 1 individual works for the government when g is greater than $w\mu$. It thus follows that the average productivity of type 1 individuals in government is decreasing in the wage rate w. A type

[6] See, for instance, Rebecca Hollander-Blumoff, Getting to "Guilty": Plea Bargaining as Negotiation, 2 Harv. Negotiation L. Rev. 115 (1997); Robert A. Katzmann, Regulatory Bureaucracy: The Federal Trade Commission and Antitrust Policy (1980); Robert L. Nelson, Partners with Power: The Transformation of the Large Law Firm (1988); and Robert M. Sauer, Job Mobility and the Market for Lawyers, 106 J. Pol. Econ. 147 (1998).

[7] Lawrence F. Katz & Alan B. Krueger, Changes in the Structure of Wages in the Public and Private Sectors, 12 Res. Lab. Econ. 137 (1991).

2 individual who works for the government in period 1 receives a salary of zero and selects a level of human capital expenditures i. In period 2, this individual can stay in government and receive a salary of zero or move to the private sector and receive a salary of $w \ln(\mu i)$. The term $\ln(\mu i)$ is the individual's private-sector productivity after working for the government. The shape of the productivity function reflects the assumption that an individual's gains from human capital accumulation are increasing in his or her original productivity but at a decreasing rate.[8] Lemmas 1–2.4 characterize the optimal behavior of an individual.[9]

LEMMA 1. The average productivity of type 1 individuals who work in the government is decreasing in the wage rate w.

LEMMA 2.1. If the wage rate is low ($w \leq \bar{w}$), then all individuals of type 2 work in the private sector. If the wage rate is high ($w > \bar{w}$), then type 2 individuals with intermediate-level productivities ($\mu \in [\mu_1^*, \mu_2^*]$) work for the public sector in period 1 and those with high productivities ($\mu > \mu_2^*$) and low productivities ($\mu < \mu_1^*$) work for the private sector.[10]

LEMMA 2.2. Human capital expenditures of type 2 individuals, i, are increasing in the wage rate w.

LEMMA 2.3. When the wage rate is high ($w > \bar{w}$), the proportion of type 2 individuals who work in the government sector is increasing in the wage rate w.

LEMMA 2.4. The average productivity of type 2 individuals who work in the government sector is increasing in the wage rate w.

Lemma 2.1 states that individuals with average productivities join the government to accumulate human capital and later move to the private sector. Individuals with very low productivities work in the private sector because the value of accumulating human capital is not sufficient to offset its cost. Individuals with high productivities work in the private sector because increases in future wages are not sufficient to compensate for the wages lost while working in the government. Lemma 2.1 also states that private salaries need to be sufficiently high for type 2 individuals to join the public sector to increase their human capital. Further, if private wages are high, type 2 individuals are more likely to work for the government (lemma 2.3) and have high human capital expenditures (lemma 2.2). Finally, individuals with high productivities benefit more from working for the government when private wages are higher because it is more effective for them to make human capital investment. As a result, when private wages are higher, more type 2 individuals of high productivity take advantage of government experience

[8] Any functional form that satisfies this assumption will lead to similar comparative statistics. The particular choice of the logarithm function, however, simplifies the exposition.

[9] The proofs of the theoretical results are available from the authors on request.

[10] More precisely, $\bar{w} = 2e$, where the symbol e denotes the base of the natural exponential and the scalars μ_1^* and μ_2^* are the two roots for the equation $\ln(w\mu) - 2\mu - 1 = 0$.

than those of low productivity, which leads to higher average productivity of type 2 government employees (lemma 2.4).

The value of p measures the importance of human capital accumulation in the career choices of individuals in the labor market. When $p = 1$, government work experience does not enhance anyone's productivity in the private sector. All individuals who work for the government choose to do so owing to lower productivity in the private sector (differential ability hypothesis) or higher preference for government work (differential preference hypothesis). Therefore, no government employee leaves the government except because of natural attrition such as retirement. Thus, the turnover rate is independent of the private-wage rate. When $p < 1$, government experience increases private salaries of a fraction $1 - p$ of individuals (human capital accumulation hypothesis). Since all type 2 individuals who join the government leave in period 2, lemma 2.3 implies a higher turnover rate for government employees where the private-wage rate is higher.

Similarly, for different values of p, the model leads to contrasting hypotheses regarding government employees' human capital expenditure and average productivity. The different hypotheses are summarized as follows:

PROPOSITION 1. When $p = 1$, higher private wages (1) do not change human capital expenditures by government employees, (2) do not change the turnover of government employees, (3) decrease the average ability levels of government employees who leave the government, and (4) decrease the average ability levels of government employees.

PROPOSITION 2. When $p < 1$, higher private wages (1) increase human capital expenditures by government employees, (2) increase turnover of government employees, (3) increase the average ability levels of government employees who leave the government, and (4) can either decrease or increase the average ability levels of government employees.

Since only type 2 government employees leave the government to work for the private sector, part 3 of proposition 2 follows from lemma 2.4. Part 4 of proposition 2 follows from the fact that as private wages decrease, the average ability levels of type 1 government workers decrease while the average ability levels of type 2 government workers increase. The other conclusions follow from lemmas 1–2.4.

III. Prosecutors' Job Performance and Career Decisions

This section examines the performance and careers of assistant U.S. attorneys. We provide evidence consistent with the belief that accumulation of human capital in the government is important for individuals' careers in the private sector (proposition 2).

A. The Effect of Private Salaries on Plea Bargaining

Anecdotal evidence suggests that trial experience gained from working for the government is highly valued in the legal profession.[11] We therefore focus on trial experience as a measure of the human capital accumulated by federal prosecutors. Specifically, we examine whether assistant U.S. attorneys are more likely to take a case to trial in districts with high private salaries. Section IV presents empirical evidence consistent with trial experience being personally beneficial to prosecutors.

We restrict our empirical examination to drug-trafficking cases for the following reasons. The personal benefits from trial experience are likely to be the most pronounced for relatively inexperienced assistant U.S. attorneys. Simple drug possession and trafficking cases, bank robberies, and immigration cases are most often listed among those handled by assistants with limited experience.[12] Among these cases, there are too few bank robberies to allow a systematic study of regional differences in plea rates, while immigration and drug possession cases are excluded from the sample because not all districts prosecute these cases. From all the drug-trafficking cases, we also exclude Organized Crime Drug Enforcement Task Force (OCDETF) cases because OCDETF targets high-level drug traffickers and large-scale money laundering operations and its cases involve more experienced prosecutors.[13]

1. Measuring Case Severity

Theoretical models predict that cases involving more serious offenses and cases with lower trial costs are less likely to be settled by plea bargain.[14] Thus, in order to estimate the effect of salaries on the likelihood of a plea, one needs to control for case severity and trial costs. One measure of severity

[11] See, for instance, Hollander-Blumoff, *supra* note 6; Katzmann, *supra* note 6; and Nelson, *supra* note 6.

[12] See United States Attorney's Office for the District of Columbia, Assignments for New Assistant U.S. Attorneys (2003) (http://www.usdoj.gov/usao/dc/Employment/AUSA/AUSA_Assignments.html): "The rotation system provides training in District of Columbia criminal law and procedure, allows Assistants to develop and hone their trial and oral advocacy skills, and offers exposure to the myriad of issues raised by the wide variety of cases the Office handles. The first assignments in the Office are typically in the Appellate Division, the Misdemeanor Section, or the Domestic Violence Unit in the Superior Court Division. Thereafter, an AUSA usually moves to the Felony Section to try felony narcotics cases, the Grand Jury Section, and then returns to the Felony Section to prosecute violent crime cases." Our conversations with Dan Richman (March 2003), former assistant U.S. attorney with the Southern District of New York, and Lee Lawless (October 1999), federal public defender with the Eastern District of Missouri, also confirm this finding. Furthermore, for the cases and time period studied here, a prosecutor works on approximately three trial cases a year on average. According to Lawless, the approximate number of trials necessary for a lawyer to gain familiarity with such issues as jury selection is five or six.

[13] John Hagan, The Gender Stratification of Income Inequality among Lawyers, 68 Soc. Forces 835 (1990).

[14] Bebchuk, *supra* note 1.

is the number of months a defendant is sentenced to spend in prison. However, this measure of severity leads to biased estimates if defendants receive lighter sentences in exchange for agreeing to a plea.[15]

For this reason, we impute the prison sentence on the basis of the type and weight of the drugs for which the defendant was arrested, as recorded in the data files by the Executive Office of United States Attorneys (EOUSA).[16] This information is recorded in the initial part of the prosecution and hence is less likely to be affected by the outcomes of the plea bargain process.[17] While imprecise (for instance, such a measure does not take into account the purity of the drug or the criminal history of the defendant), the variable Imputed Sentence is an important control and explains 20 percent of the variation in the actual prison sentences imposed.[18] Therefore, we will

[15] We provide four observations to support the existence of a plea bargain discount. First, Section 3E1.1 of the Sentencing Guidelines specifically warrants a reduction in sentence for individuals who plead guilty on the basis of a motion of "acceptance of responsibility" (United States Sentencing Commission (USSC), Guidelines Manual (1989)). As a result, cases settled through plea bargain involve lighter sanctions. In fact, among the drug-trafficking cases we report on in this paper, more than 68 percent of those settled through plea bargain cite "acceptance of responsibility," while less than 8 percent of trial cases do. Second, another common measure used to discount a sentence during plea bargain is certification by the prosecution that the defendant provided substantial assistance (see Michael A. Simons, Departing Ways: Uniformity, Disparity and Cooperation in Federal Drug Sentences, 47 Vill. L. Rev. 921 (2002)). Among the 716 trial cases in our sample, in only 21 cases did a defendant receive a reduction in sentence for "substantial assistance" of the prosecution. In contrast, close to 30 percent of plea cases involve "substantial assistance." Third, it has been shown that defendants involved in more severe cases are both more willing to help the prosecution (because they face more severe prison sentences) and more able to help (because they have more accomplices that can be implicated) (see Simons, *supra*). This implies a positive correlation between case severity and whether the case is cited for assistance. However, actual prison sentence is in fact negatively correlated with substantial assistance, which reflects the reduced penalty when assistance is rewarded. Finally, when actual sentences are regressed on the imputed sentence length and a dummy variable that takes the value of one for plea cases and zero for trial cases, the plea dummy has a significant and negative effect on sentence length, while the imputed sentence length has a significant and positive effect on sentence length. After controlling for the imputed sentence length warranted by drug type and amount, a plea agreement reduces final sentence length by 88 months. This result is consistent with plea agreements' leading to significant and substantial discounts in sentences.

[16] The Executive Office of United States Attorneys (EOUSA) files record type and amount of drugs seized at arrest. To construct the imputed prison sentence, we first convert the information on the type and amount of drug involved in a case to an offense level using the Sentencing Guidelines. The minimum prison sentence (in months) is then computed using the sentencing table in the Sentencing Guidelines (United States Sentencing Commission, *supra* note 15, back cover).

[17] The following evidence further attests to the validity of this belief. We find that defendants involved in cases with longer imputed sentences are more likely to provide assistance to the prosecution, which confirms the finding in Simons, *supra* note 15. This is in contrast to the negative correlation between substantial assistance and actual sentence, which contradicts Simon's finding that defendants in more severe cases are more likely to provide assistance and thus suggests bias in actual sentence as a measure for case severity.

[18] The USSC collects information used at sentencing on the severity of the offense and the criminal history of the defendant. Under the Sentencing Guidelines, a mathematical formula determines the prison sentence as a function of the severity of the offense and the criminal

use imputed sentence length to measure case severity in the analysis. Given that this measure may be imprecise,[19] we will check the robustness of the result using the actual prison sentence.

2. Data Description

The Federal Justice Statistics Resource Center (FJSRC) maintains information on all federal cases filed, collected from multiple federal government agencies including the EOUSA, the United States Sentencing Commission (USSC), and the Administrative Office of United States Courts (AOUSC). With the link file provided by the center, information from these various agencies can be integrated for each defendant and each case. Our sample is based on the FJSRC data files but includes only simple federal drug-trafficking cases filed between fiscal year 1994 and fiscal year 1998 for which case severity can be measured by imputed sentence. Specifically, there are 65,077 defendants suspected of drug trafficking (EOUSA program categories 040 and 047) who are investigated by an agency other than the OCDETF. We excluded 43,753 observations corresponding to cases for which there is no record of drugs being seized at arrest. After further deleting cases with missing information and cases involving illegal residents, our sample size is reduced to 8,769.[20]

In addition to Imputed Sentence, two other variables are extracted from the EOUSA files to provide information on case severity: whether the case involves multiple defendants and the percentage of drug-trafficking cases prosecuted by the OCDETF in the district.[21] The EOUSA data also provide us with two proxies for court costs: the number of cases per assistant U.S. attorney and the average length between the time a case is received and the time it is disposed (in months).[22] The USSC and AOUSC data are used to obtain information on defendant personal characteristics such as race, gender, age, and education as well as the defendant's legal representation (whether the defendant is represented by a public defender or a private lawyer).[23]

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history of the defendant. Hence, using the characteristics of the offense and the offenders from the USSC files is equivalent to using the actual prison sentence imposed.

[19] For instance, in cases involving multiple defendants, all defendants are assigned the same type and weight of drugs seized at arrest regardless of their role in the criminal operation. But this preliminary nature of the files is also the very strength of the EOUSA data—the raw information has not been manipulated to comply with the plea bargain results.

[20] Including cases with no drugs seized at arrest produces results very similar to those obtained in the later regressions.

[21] While Organized Crime Drug Enforcement Task Force cases are not included in our sample, one expects that simple drug-trafficking cases involve more serious offenses in districts with more serious organized drug trafficking.

[22] To avoid potential endogeneity problem, the numbers of cases and assistant U.S. attorneys are for all cases, not just for drug cases.

[23] Adding these variables (where age and education enter in quadratic forms) increases the explained variation in the actual sentence to 35 percent.

Since government worker wage is assumed to equal zero in the model above, the relevant measure of private salary is the difference between private-lawyer salary and assistant U.S. attorney salary. We obtain private-lawyer salary information from the Bureau of Labor Statistics (BLS) and use level 11 pay with locality adjustment in the U.S. Government General Schedule to proxy assistant U.S. attorney salary.[24] To account for variations in cost of living, the difference between private-lawyer salary and assistant U.S. attorney salary is normalized by the average private salary in the district, also obtained from the BLS. We also use the American Chamber of Commerce Researchers Association cost-of-living index as an alternative measure.[25]

Other district socioeconomic information on population, crime, and housing is obtained from the Bureau of Justice Statistics (BJS). We manually collected biographical information for U.S. attorneys who held office between fiscal years 1994 and 1998. Other information on U.S. attorney offices such as the number of assistants and personnel allocation is obtained from the Department of Justice.[26] Table 1 provides summary statistics and data sources of variables at the defendant level, while Table 2 provides summary statistics and data sources of the state- and district-level variables. After excluding districts outside the continental United States and the District of Columbia, our sample includes cases from 435 district-years.[27]

3. Empirical Results Relating Private Salary and Plea Rate

We examine the relation between salaries and plea rates using the following specification:

[24] Private-lawyer salary data are from Bureau of Labor Statistics, County Employment and Wages Technical Note (July 19, 2005) (http://www.bls.gov/news.release/cewqtr.tn.htm). The locality adjustments are obtained from U.S. Office of Personnel Management (OPM), General Schedule and Locality Pay Tables (1993–98) (http://www.opm.gov/oca/05tables/index.asp).

[25] Compared with the legal profession, where substantial restrictions such as state bar exams limit interstate mobility, other professionals in the private sector are relatively free to move across geographic regions. Thus, we expect differences in private salaries to account for differences in local amenities. Hence, the local private salary provides a natural measure for the regional compensating differential; see Jennifer Roback, Wages, Rents, and Quality of Life, 90 J. Pol. Econ. 1257 (1982). The American Chamber of Commerce Researchers Association cost-of-living index is from American Chamber of Commerce, ACCRA Cost of Living Manual (1993–98).

[26] Bureau of Justice Statistics data are from the FedStats database (http://www.fedstats.gov/key_stats/BJSkey.html) (for crime); U.S. Department of Justice, Bureau of Justice Statistics, Index Offense Crimes and Arrests, the 90 Largest Counties, 1990–96 (http://www.ojp.usdoj.gov/bjs/dtdata.htm#County) (for population and housing); U.S. Department of Justice, Freedom of Information Act request (September 20, 1999) (for 1993–98 Department of Justice personnel data).

[27] We have cases from 87 districts for 5 years after excluding cases from the districts of Puerto Rico, the Virgin Islands, Guam, the Northern Mariana Islands, Hawaii, Alaska, and D.C.; hence, the sample size of 435 ($= 87 \times 5$).

TABLE 1

DESCRIPTIVE STATISTICS FOR DEFENDANT VARIABLES

VARIABLE	SOURCE	MEAN			t-TEST
		Overall (N = 8,769)	Plea (N = 8,085)	Trial (N = 684)	
Imputed Sentence	EOUSA	71.242	69.471	92.181	10.99
Actual Sentence	USSC	60.240	50.976	169.741	42.24
Multiple Defendants	EOUSA	.420	.410	.539	6.61
Public Counsel	AOUSC	.707	.712	.646	3.65
White	USSC	.711	.727	.519	11.63
Male	USSC	.838	.834	.894	4.08
Age	USSC	32.281	32.178	33.501	3.33
Education	USSC	11.503	11.479	11.784	1.76
FYR 1994	EOUSA	.137	.131	.218	6.34
FYR 1995	EOUSA	.134	.129	.187	4.20
FYR 1996	EOUSA	.164	.167	.133	2.26
FYR 1997	EOUSA	.254	.257	.211	2.66
FYR 1998	EOUSA	.311	.316	.251	3.49

SOURCES.—Executive Office of United States Attorneys (EOUSA): Bureau of Justice Statistics, Federal Justice Statistics Program, Suspects in Criminal Matters Concluded during Fiscal Years 1994–1998 (1995–99); United States Sentencing Commission (USSC): Bureau of Justice Statistics, Federal Justice Statistics Program, Defendants Sentenced under the Guidelines during Fiscal Years 1994–98 (1997–98); Administrative Office of the United States Courts (AOUSC): Bureau of Justice Statistics, Federal Justice Statistics Program, Defendants in Federal Criminal Cases Filed in U.S. District Court during Fiscal Years 1994–98 (1997–98).

NOTE.—The data set is made up of all defendants charged in federal drug-trafficking cases filed between fiscal years 1994 and 1998, excluding those prosecuted by the Organized Crime Drug Enforcement Task Force (OCDETF). After deleting observations with missing information, the data set includes 8,769 defendants. A link file developed by the Federal Justice Statistic Research Center allows integration of information from various agencies for the same defendant. The variable Plea (versus jury trial) is a dummy variable equaling one if the defendant reached a plea agreement. Imputed Sentence is the prison sentence length (in months) imputed from the type and amount of drugs seized at arrest according to the sentencing table from United States Sentencing Commission, Guidelines Manual (1989). Actual Sentence is the prison sentence (in months) received by the defendant when the case is concluded. Multiple Defendants is a dummy variable equaling 1 for cases involving multiple defendants. Public Counsel is a dummy variable equaling one for defendants who use public counsel. The t-test column contains the result of the test of whether the mean of a variable is the same for cases disposed at trial or according to a plea.

$$\text{plea}_{ijt} = B_0 + B_1(\text{salary difference}_{jt}) + B_2(\text{caseload}_{jt}) + B_3(\text{case severity}_{ijt}) + B_4(\text{year dummies}_t) + \varepsilon_{ijt},$$

where plea_{ijt} is a binary variable equaling one when defendant i agrees to a plea in district j and year t; $\text{salary difference}_{jt}$ is the difference between private-lawyer salary and the GS-11 pay level in district j and year t divided by average local salary in district j and year t (in logarithms); caseload_{jt} is the caseload for prosecutors in district j and year t measured by the average number of cases per prosecutor and average case-processing time in district j and year t; and $\text{case severity}_{ijt}$ is the severity of the case defendant i is charged with in district j and year t proxied by $\text{case characteristics}_i$ such as imputed sentence length warranted by drug type and amount and whether the case involves multiple defendants, $\text{defendant characteristics}_i$ such as gen-

der, age, education, and legal representation, and district characteristics$_{jt}$ such as the percentage of drug cases that are OCDETF cases. The primary variable of interest is Salary Difference, with its coefficient estimate, B_1, which indicates the change in plea probability due to higher private salaries. The human capital accumulation hypothesis suggests that, in districts with a greater salary difference, the plea rate is lower (namely, $B_1 < 0$). Further, caseload is positively related to plea probability, while case severity is negatively related to plea probability. Year dummies are included to control for unobserved variation in time.

Regression (1) in Table 3 presents results from logit regressions with district random effects.[28] Consistent with the hypothesis that some lawyers work for the government to accumulate human capital, we find that greater salary differences are associated with significantly lower plea rates. The effect is economically important. In an average district, the salary differential between private and assistant U.S. attorneys is $2,900, and the trial rate is 8 percent.[29] In a district where the salary differential is 1 standard deviation greater than the national average, the salary difference is $12,000, while the trial rate is 10 percent. Thus, the greater salary difference increases the percentage of cases going to trial by 25 percent. The other results from the regression are also consistent with previous findings, with both proxies for the severity of the offense (Imputed Sentence and Multiple Defendants) being negatively correlated with the likelihood of a plea.[30]

Since lower plea rates may lead to longer processing time and fewer cases a prosecutor can handle on average, the two proxies for caseload used above may be endogenous. Regression (2) addresses this concern by using the average number of assistant U.S. attorneys per 1,000 of residents in the district as an instrument for caseload and obtains very similar results. Exclusion of insignificant variables also does not change the results discussed above, as shown in regression (3). Regression (4) uses the actual prison sentence instead of the imputed prison sentence. Again, the results do not change significantly.

We further test the robustness of the results by using alternative measures of incentive for accumulation of trial experience. In regression (5) we use the ratio between private-lawyer salary and local average salary to proxy the

[28] The random effects account for the unobserved district characteristics. The Hausman test conducted to compare the fixed-effects logistic model and the random-effects logistic model obtains a test statistic of 9.39, which provides strong support that the error terms are independent from the explanatory variables (with a corresponding P-value of .824 for the χ^2 distribution with 15 degrees of freedom) and thus that the random-effects logistic model is the appropriate specification.

[29] All the amounts are computed in 1994 dollars. The average trial rate is the trial rate for a district with average characteristics.

[30] The results also suggest that cases involving white females are more likely to be resolved by a plea agreement. The effect of the defendant's age is nonlinear. Cases involving defendants who are very young or very old are more likely to be settled by plea bargain. One possible explanation is that these defendant characteristics indicate lower case severity.

TABLE 2

SUMMARY STATISTICS FOR DISTRICT AND STATE VARIABLES

Variable	Source	Mean	Standard Deviation	Minimum	Maximum	*N*
%OCDETF	EOUSA	.275	.197	.000	.908	435
Cases per Assistant U.S. Attorney	DOJ	9.717	4.766	1.378	36.113	435
Average Processing Time	EOUSA	10.817	5.096	3.735	58.267	435
Assistant U.S. Attorneys per Million Residents	EOUSA	.017	.006	.005	.045	435
Private-Lawyer Salary ($1,000s)	BLS	40.652	9.306	22.072	73.194	435
Assistant U.S. Attorney Salary ($1,000s)	OPM	36.854	1.643	33.623	41.949	435
Average Local Salary ($1,000s)	BLS	26.447	4.228	18.411	54.738	435
Cost-of-Living Index	ACCRA	106.000	18.437	85.800	231.300	435
District Office Size	DOJ	44.460	38.190	10.550	220.470	435
Assistant U.S. Attorney Experience	Boylan	.113	.317	.000	1.000	435
Legal Experience	Boylan	21.162	6.671	8.000	45.000	396
Elite Law School	Boylan	.090	.287	.000	1.000	360
U.S. Attorney Experience	Boylan	2.663	2.003	.500	14.000	435
Age of U.S. Attorney	Boylan	47.930	6.548	35.000	70.000	403
Departure	Boylan	.271	.444	.000	1.000	435
Private Job	Boylan	.363	.481	.000	1.000	435
State Maximum Drug Sentence	Holen	.445	.742	.000	2.000	48
State Minimum Drug Sentence	Holen	.837	.966	.000	2.000	48
Murder Rate (per 100,000 residents)	UCR	6.589	3.939	.112	20.442	435
Population (in millions)	BJS	2.794	2.118	.454	15.100	87
Population Density (per square mile)	BJS	236.067	661.162	.953	5,042.097	87
%Male	BJS	.487	.008	.476	.527	87

%White	BJS	.829	.120	.334	.986	87
%Black	BJS	.111	.102	.003	.371	87
%Hispanic	BJS	.056	.089	.004	.382	87
%Homeownership	BJS	.592	.046	.456	.664	87
District Median Home Value ($1,000s)	BJS	66.767	40.816	30.176	211.247	87

SOURCES.—Executive Office of United States Attorneys (EOUSA): Bureau of Justice Statistics, Federal Justice Statistics Program, Suspects in Criminal Matters Concluded during Fiscal Years 1994–1998 (1995–99); Department of Justice (DOJ): 1993–98 data were obtained through a Freedom of Information Act request (September 20, 1999); Bureau of Labor Statistics (BLS): Bureau of Labor Statistics, County Employment and Wages Technical Note (July 19, 2005) (http://www.bls.gov/news.release/cewqtr.tn.htm); U.S. Office of Personnel Management (OPM): U.S. Office of Personnel Management, General Schedule and Locality Pay Tables (1993–98) (http://www.opm.gov/oca/05tables/index.asp); American Chamber of Commerce Researchers Association (ACCRA): American Chamber of Commerce, ACCRA Cost of Living Manual (1993–98); Boylan: Richard T. Boylan, What Do Prosecutors Maximize? Evidence from the Careers of U.S. Attorneys, 7 Am. L. & Econ. Rev. 379 (2005); Holen: Arlene Holen, Effects of Professional Licensing Arrangements on Interstate Labor Mobility and Resource Allocation, 73 J. Pol. Econ. 492 (1965); Uniform Crime Report (UCR): James Alan Fox, Uniform Crime Reports (United States): Supplementary Homicide Reports, 1976–1999 (computer file, 2001); Bureau of Justice Statistics (BJS): Bureau of Justice Statistics, Index Offense Crimes and Arrests, the 90 Largest Counties, 1990–96 (http://www.ojp.usdoj.gov/bjs/dtdata.htm#County).

NOTE.—District-level data are for fiscal years 1994–98 (except for population and housing information, which is for 1990), and all salaries are in 1994 dollars. The variable %OCDETF is the percentage of drug-trafficking cases prosecuted by the Organized Crime Drug Enforcement Task Force in the district-year. Cases per Assistant U.S. Attorney is the average number of cases prosecuted by an assistant U.S. attorney in the district-year. Average Processing Time is the average time between the filing and the conclusion of a case. Assistant U.S. Attorneys per Million Residents is the number of assistants divided by the population in the district (in millions). District Office Size is the total number of full-time-equivalent prosecutors in a district. Assistant U.S. Attorney Experience is a dummy variable equaling one for U.S. attorneys who were former assistant U.S. attorneys. Legal Experience is the number of years since bar admission when the U.S. attorney was appointed. Elite Law School is a dummy variable equaling one if the U.S. attorney graduated from an elite law school. U.S. Attorney Experience is the number of years the U.S. attorney has served in office. Departure is a dummy variable equaling one if the U.S. attorney is leaving office in the year. Private Job is a dummy variable equaling one if the U.S. attorney takes a position in a private firm after departure. State Maximum Drug Sentence equals zero if the state law does not impose a maximum drug-trafficking sentence of 30 years or longer for either cocaine trafficking or heroin trafficking, equals one if the state law imposes such a maximum sentence either for cocaine trafficking only or for heroin trafficking only, and equals two if the state law imposes such a maximum sentence for both cocaine trafficking and heroin trafficking. State Minimum Drug Sentence equals zero if the state law does not impose a minimum drug-trafficking sentence of 1 year or longer for either cocaine trafficking or heroin trafficking, equals one if the state law imposes such a minimum sentence either for cocaine trafficking only or for heroin trafficking only, and equals two if the state law imposes such a minimum sentence for both cocaine trafficking and heroin trafficking.

TABLE 3

LOGISTIC ESTIMATES OF THE EFFECT OF SALARIES AND MONITORING ON THE PROBABILITY OF A PLEA

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Salary Difference	−.793 (1.84)+	−.968 (2.34)*	−.891 (2.29)*	−.710 (1.63)+			−1.504 (2.61)**
Private Salary/Local Salary					−.794 (2.33)*		
Salary Difference (Cost of Living)						−.309 (1.75)+	
Imputed Sentence	−.004 (5.82)**	−.004 (5.80)**	−.004 (5.95)**		−.004 (4.11)**	−.004 (4.27)**	−.003 (2.95**)
Actual Sentence				−.013 (22.62)**			
Multiple Defendants	−.309 (3.57)**	−.298 (3.43)**	−.305 (3.55)**	−.205 (2.17)*	−.272 (2.75)**	−.273 (2.76)**	−.413 (3.40)**
%OCDETF	.035 (.09)	.235 (.64)		.472 (1.10)	.101 (.24)	.140 (.33)	.614 (1.30)
Public Counsel	.098 (1.09)	.088 (.97)		−.077 (.77)	.119 (1.15)	.112 (1.08)	.135 (1.04)
Cases per Assistant U.S. Attorney	−.001 (.16)			.002 (.22)	.010 (.86)	.012 (1.04)	.018 (1.32)
Average Processing Time	.008 (.51)			.004 (.22)	.013 (.76)	.016 (.89)	.009 (.52)
Assistant U.S. Attorneys per Million Residents		7.330 (.98)					
White	.679 (6.70)**	.662 (6.50)**	.660 (6.67)**	.281 (2.46)*	.725 (6.29)**	.715 (6.18)**	.537 (3.76)**
Male	−.351 (2.66)**	−.349 (2.65)**	−.358 (2.71)**	.184 (1.32)	−.397 (2.65)**	−.402 (2.68)**	−.310 (1.82)+
Age	−.059 (3.55)**	−.059 (3.54)**	−.059 (3.60)**	−.052 (2.75)**	−.063 (3.33)**	−.093 (3.58)**	−.063 (2.63)**
Age^2	.001 (2.55)*	.001 (2.54)*	.001 (2.59)**	.001 (1.87)+	.001 (2.53)*	.001 (2.98)**	.001 (2.04)*
Education	.036 (1.05)	.037 (1.08)		.024 (.63)	.022 (.58)	.004 (.11)	−.012 (.24)
$Education^2$	−.001 (1.15)	−.001 (1.17)		−.001 (.30)	−.001 (.45)	.000 (.02)	.000 (.21)
Wald χ^2	167.36**	164.36**	166.89**	673.91**	192.30**	199.30**	236.20**

NOTE.—All regressions include year fixed effects and district random effects. Regression (7) includes all district and state variables listed in Table 2. Because of space constraints, the regression coefficients for these additional variables are not included. The absolute value of the *z*-statistic is in parentheses. $N = 8{,}769$. OCDETF = Organized Crime Drug Enforcement Task Force.

+ Significant at the 10% level.

* Significant at the 5% level.

** Significant at the 1% level.

prosecutor's incentive for trial experience accumulation. In regression (6), cost-of-living index for the host city of each district office is used instead of local average salary to adjust for differences in local amenities. The results remain similar to those in regression (1).

Finally, we control for other geographic variations by including additional variables at the state and district level. As shown in regression (7) of Table 3, the prior results are qualitatively unchanged. We include measures for the severity of state drug laws from Gwen Holden and colleagues[31] because they affect which cases are prosecuted at the federal level and which are prosecuted at the state level. Personal characteristics of the U.S. attorneys may also affect the focus of the district office and consequently the plea probability. We collected through a variety of sources the following biographical information on the U.S. attorneys: age, amount of legal experience prior to taking office (measured by number of years since bar admission), number of years served in office, whether he or she attended an elite law school, whether he or she worked as an assistant U.S. attorney before the appointment, whether he or she is leaving office in the current year, and whether he or she takes a position in a private firm after departure. Since the effectiveness of supervision varies with the number of assistants in the district, as pointed out by Edward Glaeser, Daniel Kessler, and Anne Morrison Piehl,[32] we also use office size to provide information on the effectiveness of the supervision in the office.[33]

Three personal characteristics of U.S. attorneys affect plea bargaining: the plea probability is lower in the year of a U.S. attorney's departure but higher for those who have prior experience as assistant U.S. attorneys or who graduated from an elite law school. Among the additional control variables, office size is related nonlinearly to the plea probability. Very small and very large district offices tend to have lower plea probabilities, while medium-sized offices tend to have higher plea probabilities.[34]

[31] Gwen A. Holden *et al.*, A Guide to State Controlled Substances Acts (1991).

[32] Edward L. Glaeser, Daniel P. Kessler, & Anne Morrison Piehl, What Do Prosecutors Maximize? An Analysis of the Federalization of Drug Crimes, 2 Am. L. & Econ. Rev. 259 (2000).

[33] For instance, in large districts assistant U.S. attorneys are less likely to be promoted to U.S. attorney and hence are less motivated to obtain good performance evaluations. It may also be more difficult to coordinate the monitoring of the assistants in these districts because of their size. In very small districts, there may be too few senior assistants available to serve as supervisors in each of the areas of criminal prosecution. To account for the potential nonlinear effect of district size, we include both Size and $Size^2$ in the regression.

[34] Other district-level control variables include murder rate, population, population density, percentage of male population, percentages of white, black, and Hispanic population, percentage of residents who own their own house, and median house value. Murder rate for each district is computed using the Federal Bureau of Investigation's Uniform Crime Report data (James Alan Fox, Uniform Crime Reports (United States): Supplementary Homicide Reports, 1976–1999 (computer file, 2001)), while the other demographic and economic variables for each district are obtained from the U.S. Department of Justice, *supra* note 26. Summary statistics

4. Discussion

The evidence provided above shows that in districts with higher private-lawyer salaries, assistant U.S. attorneys are more likely to take cases to trial. These results are consistent with the hypothesis that some lawyers work for the government to accumulate human capital but do not support the other two alternatives (the differential preference and the differential ability hypotheses) presented in the model. There are, however, two additional explanations for why the trial rate is higher in districts with higher private-lawyer salaries. First, assistant U.S. attorneys in high-salary districts may have higher levels of ability and hence prosecute more difficult cases. In turn, prosecuting more difficult cases could lead to a higher trial rate. Second, districts with high private-lawyer salaries may face different types of cases because of differences in state law. Specifically, in states with short state sentences for drug offenders, relatively simple cases may be prosecuted at the federal level to obtain longer prison sentences. Thus, cases prosecuted in states with short state prison sentences will tend to be simpler and hence more likely to be pleaded. If states with low salaries have short state sentences for drug offenses, differences in case characteristics may not be entirely accounted for in the regressions and may lead to the positive relation between private salaries and the rate of trial.[35]

Suppose assistant U.S. attorneys in high-salary districts have greater ability. Then, if we could control for the characteristics of the cases prosecuted, we would expect that in high-salary districts the conviction rate for trial cases is higher, case processing time is lower, and prison sentences are longer. However, none of these results hold for our data.[36] To turn to the second additional explanation, we find that states with lower salaries tend to have tougher mandatory sentences for drug cases. Thus, the correlation between salary difference and the unobserved severity of the drug cases will more likely cause the coefficient for salary difference to be underestimated rather than overestimated as suggested by the second alternative hypothesis. In fact, the effect of the variable Salary Difference remains significant but with a greater magnitude when we control for the severity of state drug laws, as shown in regression (7) (Table 3).

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and data sources of these variables can be found in Table 2. Because of space limitations, the results for U.S. attorney biographic characteristics and geographic control variables are not presented in the table but are available from the authors on request.

[35] We thank our referee for outlining these two alternative hypotheses and suggesting the tests discussed below.

[36] The regression results are available from the authors on request. It is worth noting that these results do not contradict the theoretical findings in our model since the relation between private salaries and the average ability of a government employee is indeterminate; see proposition 2, item 4.

B. *Turnover of Assistant U.S. Attorneys*

To further test the validity of the model, we evaluate its other hypotheses. In this and the next sections, we use a data set assembled from the *Martindale-Hubbell Law Directory* to compare the turnover rate and average abilities of assistant U.S. attorneys in various districts.[37] The data set consists of all individuals in the private-practice profiles of the 2002 directory who listed prior experience as an assistant U.S. attorney. We then use directories for previous years to trace the career paths of these individuals. In particular, for each individual we collect information on the years he or she joined and left the U.S. attorney office, his or her employment after departure, the law school attended, and the year he or she passed the bar exam. The turnover rate for all districts in the years 1977–98 is then computed by dividing the number of assistant U.S. attorneys leaving the government office by the total number of assistant U.S. attorneys working in the office for the corresponding district and year. Clearly, the number of assistant U.S. attorneys in our sample who left a district office in a particular year (the "turnover") is not a complete tally of all the assistant U.S. attorneys leaving the district office in that particular year. For instance, individuals who have retired and those who left the legal profession are not included in our sample. These concerns are mitigated by the fact that the main concern in this study is the incentive for assistant U.S. attorneys to pursue private careers in the legal profession. To our knowledge, this is also the only proxy for the turnover of assistant U.S. attorneys available at the district level.

Table 4 investigates the effects of private-lawyer salary on the turnover of assistant U.S. attorneys. The unit of observation is the district-year, and our sample includes 90 districts for the years 1977–98.[38] The dependent variable in the regressions is the turnover rate computed above, while the explanatory variable is the salary difference used in the other regressions. The results are consistent with higher private-lawyer salary leading to higher turnover rates of assistant U.S. attorneys.[39] In regression (1), the dependent variable is the fraction of assistant U.S. attorneys who leave the U.S. attorney's office to take private or public employment, whereas in regression (2), the dependent variable is the fraction of assistant U.S. attorneys who take private-sector employment. In both regressions, the explanatory variable is Salary Difference, which is computed as the difference between private-

[37] Martindale-Hubbell, Inc., Martindale-Hubbell Law Directory (1969–2001).

[38] After excluding the four territory districts (Puerto Rico, the Virgin Islands, Guam, and the Northern Mariana Islands) from the sample, there are $90 \times 22 = 1{,}980$ district-year combinations. Because for some years we do not have the salary and district size information for the District of Columbia, the sample size is 1,973.

[39] Tobit regressions are used to account for the large number of observation with 0 percent turnover rate, and year-fixed effects are included to control for variation over time. Ordinary least squares regressions obtain qualitatively similar results.

TABLE 4

TOBIT ESTIMATES OF THE EFFECT OF PRIVATE SALARY ON ASSISTANT U.S. ATTORNEY TURNOVER RATE

Dependent Variable	Turnover Rate 1 (1)	Turnover Rate 2 (2)
Salary Difference	.117** (10.64)	.126** (10.50)
Intercept	.042** (2.80)	.021 (1.31)

NOTE.—We collected the sample of assistant U.S. attorneys and their years in office from the *Martindale-Hubbell Law Directories* (1969–2001). Turnover Rate 1 is the ratio between the number of assistant U.S. attorneys leaving the office and the total number of assistants working in the office. Turnover Rate 2 is the ratio between the number of assistant U.S. attorneys leaving the office to take a job with a private law firm and the total number of assistants working in the office. Salary Difference is the difference between private-lawyer salary and the GS-11 level of federal government pay with locality adjustment divided by average local salary. The sample size is 1,973. The regressions include year fixed effects. The absolute value of the *z*-statistics is in parentheses. Pseudo-R^2 for both regressions is .459.

** Significant at the 1% level.

lawyer salary and the GS-11 pay level with locality adjustment divided by the average local salary in the private sector.

These results do not support the belief that the differential ability hypothesis and the differential preference hypothesis explain the career choice of all government lawyers, but they are consistent with the belief that some government lawyers work for the government in order to accumulate human capital that benefits their future private careers. The effect of salary difference on turnover rate is not only statistically significant but also economically important. As shown in Table 4, if the salary difference between private lawyers and the federal prosecutors in a district increases from $2,900 to $12,000, the turnover rate increases from 1.8 percent to 5.8 percent.[40] For a district of average size (44 assistant U.S. attorneys), this corresponds to three instead of one assistant U.S. attorney leaving the office every year.

C. Private-Lawyer Salary and Quality of Assistant U.S. Attorneys

The third distinctive prediction from the human capital accumulation hypothesis is about the average ability of government employees who leave the government to work for private firms, which we now turn to using the same sample of attorneys discussed in Section III*B*. For these 1,019 individuals in the private-practice profiles of the 2002 *Martindale-Hubbell Law Directory* who listed having prior experience as an assistant U.S. attorney, we obtained information on which law schools they attended and which year they passed the bar exam. Our first proxy of the average ability of assistant

[40] An increase in salary from $2,900 to $12,000 is a 1-standard-deviation increase in the private/public salary difference adjusted by local private salary.

TABLE 5

REGRESSION ESTIMATES OF THE RELATION BETWEEN PRIVATE SALARIES AND THE BACKGROUND OF ASSISTANT U.S. ATTORNEYS

Dependent Variable	Law School Score: OLS Regression (1)	Elite Law School: Logit Regression (2)	Legal Experience: OLS Regression (3)
Salary Difference	8.840** (4.69)	1.382** (6.30)	.916** (5.30)
Intercept	75.068** (88.94)	4.659** (47.60)	−1.180** (15.63)
Adjusted R^2	.021	.037	.026
N	990	1,004	1,019

NOTE.—The sample of assistant U.S. attorneys was collected by the authors. Law School Score is the score given to the law school from which the assistant U.S. attorney graduated (Schools of Law, U.S. News & World Rep., September 20, 2001, at 46). Elite Law School is a dummy variable equaling one if the assistant U.S. attorney graduated from one of the following law schools: Chicago, Columbia, Harvard, Michigan, Stanford, Virginia, or Yale (see Gregory C. Sisk, Michael Heise, & Andrew P. Morriss, Charting the Influences on the Judicial Mind: An Empirical Study of Judicial Reasoning, 73 N.Y.U. L. Rev. 1377 (1998)). Legal Experience is the number of years after the bar admission when the assistant U.S. attorney took the positions with the government. Salary Difference is the difference between private-lawyer salary and the GS-11 level of federal government pay with locality adjustment. The absolute value of the t statistic is in parentheses for regressions (1) and (3), and the absolute value of the Wald χ^2 statistic is in parentheses for regression (2). OLS: ordinary least squares.

** Significant at the 1% level.

U.S. attorneys from different districts is the quality of their graduating law school, while our second measure of the productivity of an individual is the number of years since the individual received a JD (Legal Experience).

Regression (1) in Table 5 gives the results from the ordinary least squares regression that explains the school score given in the *U.S. News and World Report* law school rankings by the local private-public salary difference.[41] It can be seen that assistant U.S. attorneys in districts with higher private-lawyer salaries tend to graduate from law schools with higher scores. Regression (2) gives the results from a logistic regression that estimates the probability of an assistant U.S. attorney graduating from an "elite" law school.[42] The probability is higher for assistants from districts with higher private-lawyer salaries. Regression (3) in Table 5 shows that in districts with higher private salaries, assistant U.S. attorneys who later leave the government have more legal experience when entering the government.

Again, these results do not support the prediction from the differential ability hypothesis and the differential preference hypothesis but are consistent

[41] Schools of Law, U.S. News & World Rep., September 20, 2001, at 46.

[42] The measure Elite Law School is equal to one if the attorney attended one of the following law schools: Chicago, Columbia, Harvard, Michigan, Stanford, Virginia, or Yale. Gregory C. Sisk, Michael Heise, & Andrew P. Morriss, Charting the Influences on the Judicial Mind: An Empirical Study of Judicial Reasoning, 73 N.Y.U. L. Rev. 1377 (1998), claims that such a classification of elite law school synthesizes the rankings in the *Chicago-Kent Law Review* ranking, the *U.S. News and World Report* ranking, the Gourman Report ranking, and a ranking based on the number of federal judges who graduated from a law school and were appointed to a district court outside the state where the law school is located.

with the hypothesis that some lawyers take positions in the nonprofit sector to accumulate the human capital that enables them to obtain high-paying positions in private law firms (the human capital accumulation hypothesis; see proposition 2).

IV. Market Value of Trial Experience and Attorney Mobility

The theoretical predictions and empirical tests in previous sections hinge on the following assumptions: that government lawyers have more opportunities to go to trial, that trial experience is valued in the private law firms, and that the local market is crucial for attorneys' careers in the private sector. In this section we provide empirical support for these assumptions.

One expects the private benefits of trial experience to be greater for less experienced attorneys. For this reason, we restrict the analysis to a subset of 35 private-practice lawyers in the 2002 *Martindale-Hubbell Law Directory* who had fewer than 7 years of experience as a lawyer when leaving the position of assistant U.S. attorney between 1990 and 2001. Since it usually takes a new law school graduate at least 6 years to become a partner in a large law firm, we consider 6 years a natural threshold to distinguish inexperienced lawyers from experienced ones.[43]

Because information on the salaries of individual lawyers could not be obtained, we found the number of lawyers in the law firm joined by the assistant U.S. attorneys immediately after leaving the U.S. attorney's office from the *Martindale-Hubbell Law Directories* in various years and use it as a proxy for the salary earned by the assistant U.S. attorney joining the law firm.[44] To compute a proxy for trial experience, we first record the number of trials listed in the federal case law section of Lexis-Nexis where the name of the individual is listed as counsel, including cases tried in both federal trial courts and federal appellate courts.[45] The cases represented by each individual are then divided into three categories and counted separately: those for the period before, during, and after the assistant U.S. attorney's tenure in the government, which represents trial experience accumulated in these different periods.

On the basis of these counts of court appearances, individuals obtain more

[43] See Sauer, *supra* note 6.

[44] There is both theoretical and empirical evidence of a strong positive link between the size of the private practice and the salary of partners (see Joseph Farrell & Suzanne Scotchmer, Partnerships, 103 Q. J. Econ. 279 (1988); and James B. Rebitzer & Lowell J. Taylor, Efficiency Wages and Employment Rents: The Employer-Size Wage Effect in the Job Market for Lawyers, 13 J. Lab. Econ. 678 (1995)). One of the reasons that large law firms can pay high salaries to partners is their ability to attract many associates who forgo current income in the hope of becoming partners themselves.

[45] Various possible versions of each assistant U.S. attorney's name (for instance, with or without middle initial) were entered to obtain the largest possible set of cases. Cases from the wrong districts or from the wrong time period were then deleted.

TABLE 6

REGRESSION ESTIMATE OF THE RELATION BETWEEN TRIAL EXPERIENCE AND THE NUMBER OF LAWYERS IN A LAW FIRM JOINED BY AN ASSISTANT U.S. ATTORNEY

Dependent Variable	(1)	(2)
Trial Experience	.990** (3.56)	.809** (3.13)
Age	−10.375* (−2.10)	−7.093 (−1.63)
Experience	2.918 (1.28)	4.498* (2.06)
Law School Score	−.003 (.27)	
Elite Law School		1.740* (2.33)
Intercept	3.514* (2.03)	19.155 (1.29)
Adjusted R^2	.297	.417

NOTE.—The sample of assistant U.S. attorneys was collected by the authors. Trial Experience is the number of trials listed in Lexis-Nexis in which the individual appeared as counsel before leaving the assistant U.S. attorney position. Age is the age of the assistant when leaving the government. Experience is the number of years of legal experience of the assistant when leaving the government. Law School Score is the *U.S. News and World Report* (Schools of Law, U.S. News & World Rep., September 20, 2001, at 46) score given to the law school from which the assistant U.S. attorney graduated. Elite Law School is a dummy variable equaling one if the assistant U.S. attorney graduated from one of the following law schools: Chicago, Columbia, Harvard, Michigan, Stanford, Virginia, or Yale (see Gregory C. Sisk, Michael Heise, & Andrew P. Morriss, Charting the Influences on the Judicial Mind: An Empirical Study of Judicial Reasoning, 73 N.Y.U. L. Rev. 1377 (1998)). The sample size is 35. The unit of observation is an assistant U.S. attorney who left between 1990 and 2001 with fewer than 7 years of experience as a lawyer. The absolute value of the *t*-statistic is in parentheses.

* Significant at the 5% level.

** Significant at the 1% level.

trial experience as assistant U.S. attorneys than in private practice. A paired *t*-test shows that the average number of trials per year tried by an individual lawyer is significantly higher when working in a U.S. attorney's office than in the private sector both before and after tenure as assistant U.S. attorney. On average, assistant U.S. attorneys take 1.5 more cases to trial per year than during their prior private employment and one more case per year than during their later private employment. These differences are significant at the 1 percent level.

We then use the total number of cases tried by the individual before and during the assistant U.S. attorney's tenure as a measure of his or her trial experience when departing the government to join the private firm. Table 6 examines the relationship between trial experience and the employment prospects of an assistant U.S. attorney. In regression (1), the dependent variable is the number of lawyers in the law firm joined by the assistant U.S. attorney, and the explanatory variables include trial experience, age, legal experience, and *U.S. News and World Report* law school ranking of the law school from which the individual graduated. In regression (2), the law school score is replaced with the elite law school dummy variable.[46] It can be seen that

[46] Firm size, trial experience, age, and experience all enter the regression in logarithms.

assistant U.S. attorneys with more trial experience join larger law firms. Further, younger, more experienced individuals who attend an elite law school are more likely to join a large law firm. The results of the regression are consistent with the explanation that attorneys take government positions with lower pay to gain trial experience.

The sample size of assistant U.S. attorneys we collected is too small to control for district and year characteristics. There is, however, extensive anecdotal evidence that attorneys choose to work for the government sector at lower pay in order to obtain trial experience. Rebecca Hollander-Blumhoff and Robert Nelson[47] both argue that acquiring expertise in particular areas of prosecution requires going to trial and that working for the government provides such opportunities. Robert Katzmann quotes a lawyer working with a government agency as follows: "[T]he typical staff lawyer is eager for trial work because he thinks that private law firms will not be interested in him unless he has courtroom experience. He has visions of facing the counsel of a distinguished law firm, of impressing him with his wit and expertise, and of ultimately securing employment in the private bar."[48] A lawyer who is the head of the cyberlaw section at the nation's top patent litigation firm contributed his success to his experience in a U.S. attorney's office: "I wanted to be a trial lawyer. I wanted to get the courtroom experience, so I left a very high-paying job with a law firm here in Dallas and went down to the U.S. Attorney's Office and went to work for the Department of Justice. I learned there very quickly."[49] The evidence presented above further supports the validity of the assumptions that government employment provides lawyers with more opportunities to accumulate trial experience and that trial experience is valued in the private sector.

Finally, we provide some support for the importance of local labor markets for lawyers. If all lawyers competed nationally, one would not expect the incentives to accumulate trial experience to differ among districts. Compared with other professionals, lawyers have lower mobility across states than within states.[50] The lack of mobility may be due to regulations on entry that exist across state lines such as licensing requirements including state bar exams and residence restrictions. In addition, lawyers benefit from investing in social networking, developing relationships with clients, and acquiring

[47] Hollander-Blumoff, *supra* note 6; Nelson, *supra* note 6.

[48] Katzmann, *supra* note 6, at 81.

[49] Matthew E. Yarbrough, Corner Office, Dallas Morning News, October 23, 2001, at 2D. Furthermore, Sauer, *supra* note 6, finds evidence that by first taking a position in the nonprofit sector instead of the business sector (with its higher initial salary), high-ability individuals increase the likelihood of obtaining a position in a private firm later in their careers. According to Sauer, the nonprofit sector provides specific training in skills that are more easily transferable to private firms than skills learned in the business sector.

[50] Arlene S. Holen, Effects of Professional Licensing Arrangements on Interstate Labor Mobility and Resource Allocation, 73 J. Pol. Econ. 492 (1965).

knowledge of the law commonly followed in a court.[51] These investments make it expensive for lawyers to move and further reinforce the importance of local labor markets. To examine whether local labor markets are important, for the assistant U.S. attorneys examined in Sections III*B* and III*C* we collected information on the location of the private law firm they joined right after leaving government. Among the 264 individuals for whom such information is available, 67 percent remained in the same district where they served as assistant U.S. attorneys and 85 percent remained in the same state.[52] These results provide further support for the importance of local labor markets for lawyers.

V. Conclusion

We provide empirical evidence that assistant U.S. attorneys in districts with high private salaries are more likely to take a case to trial than are assistants in other districts. This is consistent with the belief that in high-salary districts, government employment is a means to accumulate trial experience and that trial experience is beneficial in the private sector. These beliefs are supported by our findings that assistant U.S. attorneys in high-private-salary districts are more likely to move to the private sector and attorneys with the most trial experience join larger law firms.

Although the focus of the paper is the career choice of federal prosecutors, our findings also have implications for other government employees. When government salary is lower than in the private sector, individuals may view government positions as an opportunity to accumulate human capital that benefits their future careers in the private sector. As a result, government output may be skewed toward activities that improve employees' opportunities in the private sector. In the context of the federal criminal justice system, government output may be skewed toward more trials in districts with high private salaries.

Bibliography

American Chamber of Commerce. *ACCRA Cost of Living Manual*. Louisville, Ky.: American Chamber of Commerce, 1993–98.

Bebchuk, Lucian Arye. "Litigation and Settlement under Imperfect Information." *RAND Journal of Economics* 15 (1984): 404–15.

Boylan, Richard T. "What Do Prosecutors Maximize? Evidence from the

[51] See *id.;* and Marc S. Galanter & Thomas M. Palay, Large Law Firm Misery: It's the Tournament, Not the Money, 52 Vand. L. Rev. 953 (1999).

[52] To provide further evidence of the importance of local legal markets, we draw a random sample of 443 lawyers from the 1990 *Martindale-Hubbell Law Directory* (*supra* note 37). Among these individuals, 86 percent remained in the same district and 91 percent in the same state 10 years later.

Careers of U.S. Attorneys." *American Law and Economics Review* 7 (2005): 379–402.

Bureau of Justice Statistics. Federal Justice Statistics Program. *Defendants in Federal Criminal Cases Filed in U.S. District Court during Fiscal Years 1994–98.* Washington, D.C.: Urban Institute (distributor), 1997–98.

Bureau of Justice Statistics. Federal Justice Statistics Program. *Defendants Sentenced under the Guidelines during Fiscal Years 1994–98.* Washington, D.C.: Urban Institute (distributor), 1997–98.

Bureau of Justice Statistics. Federal Justice Statistics Program. *Suspects in Criminal Matters Concluded during Fiscal Years 1994–1998.* Washington, D.C.: Urban Institute (distributor), November 1995–99.

Burger, Chief Justice. "The State of the Judiciary." *American Bar Association Journal* 56 (1970): 929–31.

Curtis, Dennis E. "Legislating Federal Crime and Its Consequences." *Annals of the American Academy of Political and Social Science* 543 (1996): 85–96.

Dixon, Jo, and Seron, Carroll. "Stratification in the Legal Profession: Sex, Sector, and Salary." *Law and Society Review* 29 (1995): 381–412.

Farrell, Joseph, and Scotchmer, Suzanne. "Partnerships." *Quarterly Journal of Economics* 103 (1988): 279–97.

Fox, James Alan. *Uniform Crime Reports (United States): Supplementary Homicide Reports, 1976–1999* (computer file). Boston: Northeastern University, College of Criminal Justice, (producer); Ann Arbor, Mich.: Interuniversity Consortium for Political and Social Research (distributor), 2001.

Galanter, Marc S., and Palay, Thomas M. "Law Firm Misery: It's the Tournament, Not the Money." *Vanderbilt Law Review* 52 (1999): 953–69.

Glaeser, Edward L.; Kessler, Daniel P.; and Piehl, Anne Morrison. "What Do Prosecutors Maximize? An Analysis of the Federalization of Drug Crimes." *American Law and Economics Review* 2 (2000): 259–90.

Goddeeris, John H. "Compensating Differentials and Self-Selection: An Application to Lawyers." *Journal of Political Economy* 96 (1988): 411–28.

Guerra, Sandra. "The Myth of Dual Sovereignty: Multijurisdictional Drug Law Enforcement and Double Jeopardy." *North Carolina Law Review* 73 (1995): 1160–1209.

Hagan, John. "The Gender Stratification of Income Inequality among Lawyers." *Social Forces* 68 (1990): 835–55.

Holden, Gwen A.; Wakefield, Penny; Rogers, Richard J.; Waghorn, Andrew J.; and Lehmann, Michelle L. *A Guide to State Controlled Substances Acts*. Washington, D.C.: National Criminal Justice Association, 1991.

Holen, Arlene S. "Effects of Professional Licensing Arrangements on Interstate Labor Mobility and Resource Allocation." *Journal of Political Economy* 73 (1965): 492–98.

Hollander-Blumoff, Rebecca. "Getting to 'Guilty': Plea Bargaining as Negotiation." *Harvard Negotiation Law Review* 2 (1997): 115–46.

Katz, Lawrence F., and Krueger, Alan B. "Changes in the Structure of Wages in the Public and Private Sectors." *Research in Labor Economics* 12 (1991): 137–72.

Katzmann, Robert A. *Regulatory Bureaucracy: The Federal Trade Commission and Antitrust Policy*. Cambridge, Mass.: MIT Press, 1980.

Nelson, Robert L. *Partners with Power: The Transformation of the Large Law Firm*. Berkeley: University of California Press, 1988.

Rebitzer, James B., and Taylor, Lowell J. "Efficiency Wages and Employment Rents: The Employer-Size Wage Effect in the Job Market for Lawyers." *Journal of Labor Economics* 13 (1995): 678–708.

Roback, Jennifer. "Wages, Rents, and Quality of Life." *Journal of Political Economy* 90 (1982): 1257–78.

Rosen, Sherwin. "The Market for Lawyers." *Journal of Law and Economics* 35 (1992): 215–46.

Saporta, Ishak, and Halpern, Jennifer J. "Being Different Can Hurt: Effects of Deviation from Physical Norms on Lawyers' Salaries." *Industrial Relations* 41 (2002): 442–66.

Sauer, Robert M. "Job Mobility and the Market for Lawyers." *Journal of Political Economy* 106 (1998): 147–71.

Schulhofer, Stephen J., and Nagel, Ilene H. "Plea Negotiations under the Federal Sentencing Guidelines: Guideline Circumvention and Its Dynamics in the Post-*Mistretta* Period." *Northwestern University Law Review* 91 (1997): 1284–1316.

Simons, Michael A. "Departing Ways: Uniformity, Disparity and Cooperation in Federal Drug Sentences." *Villanova Law Review* 47 (2002): 921–63.

Sisk, Gregory C.; Heise, Michael; and Morriss, Andrew P. "Charting the Influences on the Judicial Mind: An Empirical Study of Judicial Reasoning." *New York University Law Review* 73 (1998): 1377–1500.

United States Attorney's Office for the District of Columbia. *Assignments for New Assistant U.S. Attorneys.* 2003. http://www.usdoj.gov/usao/dc/employinf/ausasign.html.

United States Sentencing Commission. *Guidelines Manual*. Washington, D.C.: United States Sentencing Commission, 1989.

Weisbrod, Burton A. "Nonprofit and Proprietary Sector Behavior: Wage Differentials among Lawyers." *Journal of Labor Economics* 1 (1983): 246–63.