MAKE OR BUY? THE PROVISION OF INDIGENT DEFENSE SERVICES IN THE UNITED STATES

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Abstract—Most criminal defendants cannot afford to hire an attorney. To provide constitutionally mandated legal services, states commonly use either private court-appointed attorneys or a public defender organization. This paper investigates the relative efficacy of these two modes of indigent defense by comparing outcomes of codefendants assigned to different types of attorneys within the same case. Using data from San Francisco, I show that in multiple defendant cases, public defender assignment is plausibly as good as random. I find that public defenders reduce the probability of any prison sentence by 22% and the length of prison sentences by 10%.

> *Even the intelligent and educated layman . . . requires the guiding hand of counsel at every step in the proceedings against him. Without it, though he be not guilty, he faces the danger of conviction because he does not know how to establish his innocence.*
>
> Justice George Sutherland (1932)

I. Introduction

LOW-INCOME individuals facing criminal charges in the United States have a constitutionally protected right to legal counsel from an attorney who is appointed and compensated by the state. Legal counsel is essential since "the average defendant does not have the professional legal skill to protect himself when brought before a tribunal with power to take his life or liberty" (Johnson v. Zerbst, 1938). Among felony defendants, 80% require the assistance of such services (Harlow, 2001). While empirical research has focused on the role of judges in determining case outcomes (Anderson, Kling, & Stith, 1999; Mustard, 2001; Abrams, Bertrand, & Mullainathan, 2012; Yang, 2015; Kleinberg et al., 2017; Arnold, Dobbie, & Yang, 2018; Cohen & Yang, 2018), the importance of defense attorneys has been underexplored.

This paper investigates the relative efficacy of two common alternatives for providing legal counsel to low-income individuals: public defender organization (PD) and court-appointed private attorneys (CA). The question of whether to use PDs or CAs to provide indigent defense services relates to the broader discussion of whether the state should "make or buy" public services. Weak populations such as low-income criminal defendants can be especially vulnerable to the privatization of public services (Hart, Shleifer, & Vishny, 1997). The main challenge in evaluating the performance of PD relative to CA is that the usual mechanism of assigning an indigent defendant to a PD is not random and can vary across jurisdictions. While defendants cannot manipulate the process, the judge, court, and public defender's office can potentially influence the assignment procedure. Indeed, I find that defendants represented by a PD are substantially different in their observable characteristics than those represented by a CA.

To overcome this challenge, I use administrative court records from San Francisco and employ a new identification strategy of comparing codefendants within the same case. In multiple-defendant cases, the PD office does not represent codefendants to avoid inherent conflicts of interest (Allison, 1976; Lowenthal, 1978; Moore, 1984). In general, the within-case assignment of defendants to a PD does not have to be random. However, I show that in San Francisco, the decision of who will be assigned a PD in multiple-defendant cases is as good as random. The within-case assignment to a PD is not correlated with defendant characteristics such as race, age, criminal history, or charge severity. Selection on unobserved factors is possible although unlikely, since these omitted variables need to be correlated with both case outcomes and PD assignment but uncorrelated with criminal history, charge severity, age, and race. I exploit this natural experiment to quantify the causal effect of being assigned a PD relative to a CA on case outcomes.

I find that codefendants assigned to a PD generally obtain more favorable sentencing outcomes. These codefendants have a lower probability of both conviction (6.4%) and prison sentence (22%), as well as a shorter expected imprisonment term (10%). Next, I turn to investigate possible mechanisms. One explanation is that individuals who sort to work as PDs are different from those who elect to serve as CAs. Another channel can be the organizational norms, mentoring, and other resources that are more available to PDs. I document large differences in the observable characteristics between the two attorney types. PDs are younger, demographically more diverse (higher share of females and nonwhites), graduate from BA and JD programs in higher-ranked institutions, and have more court experience. These differences

provide descriptive evidence about the selection into the pool of attorneys who choose to accept indigent defense appointments relative to the attorneys who select to work for a PD office. One policy implication can be to establish an alternate PD organization for situations in which the main PD cannot represent an individual due to conflicts of interest, as is the case in Los Angeles.

The setting of a multiple-defendant case is different from a single-defendant scenario, and it raises potential concerns about the external validity of the results. In the past forty years, the use of a public defender organization became more frequent in local, state, and federal systems (Farole & Langton, 2010; Strong, 2016). Although the vast majority of cases involve a single defendant, one of the most frequent scenarios in which a conflict of interests arises is in multiple-defendant cases. Thus, a key policy decision is how to provide legal representation when a conflict of interests arises and whether to use CAs or establish an alternate PD organization or a different type of nonprofit organization. The results of the within-case comparison are therefore of direct policy relevance for a jurisdiction that operates a PD organization and needs to decide how to handle cases in which the PD is unable to provide representation.

This paper contributes to the nascent literature on the importance of the defense attorney. Previous studies use various empirical methods to evaluate the importance of the attorney's characteristics, type, and compensation scheme on defendants' case outcomes (Abrams & Yoon, 2007; Iyengar, 2007; Anderson & Heaton, 2012; Roach, 2014; Schwall, 2017; Agan, Freedman, & Owens, 2021). This study also contributes to a large body of literature on whether the state should make or buy public services. Other examples of such decisions range from schools (Abdulkadiroğlu, Pathak, & Walters, 2018) to police (Cheng & Long, 2017) and prison (Mukherjee, 2021). Importantly, populations such as low-income criminal defendants can be especially vulnerable to the privatization of public services (Hart et al., 1997).

The work most related to this study is that of Anderson and Heaton (2012), who exploit the initial random assignment of defendants in homicide cases in Philadelphia to CA and PD to compare the two. They find that being assigned a PD reduces the defendant's sentenced imprisonment time by 31% but has no effect on the probability of conviction. This paper extends Anderson and Heaton (2012) in several directions. First, I evaluate PDs and CAs in a range of offenses and not only in homicide trials, which are a rare and unrepresentative procedure, constituting only 0.1% of arrests in the United States in 2016. Unlike Anderson and Heaton's results, I find that assignment to a PD causes a significant reduction in the probability of conviction. Furthermore, my estimated effects on sentencing length are lower (a 10% relative to a 31% reduction). Second, I document how PDs are different from CAs in their observable characteristics and quantify how much of the estimated effects can be accounted for by these attorney-observable characteristics. The differences in attorney characteristics emphasize that selection of

attorneys into PD organizations relative to accepting cases as a CA can account for a meaningful share of the differences in efficacy.[1]

II.   Data

A.   Data Sources and Sample Construction

I use administrative records from the court system in San Francisco for all cases terminated between February 2006 and March 2016. The data contain sentencing outcomes such as whether the defendant was convicted and, if so, the length of prison sentence and length of probation, as well as a detailed description of the filed charges, ranging from broad characteristics such as a felony or a misdemeanor to more granular information on the specific statute and title of the offense. I also use classification codes of offenses to broad categories of severity that are commonly used by the California Department of Justice. These codes are referred to as SC and BCS codes.[2] Basic demographic information on the defendant such as race, sex, and age is available, and I use names to infer Hispanic origin using data from the 2000 Census.

Two individuals are defined as codefendants if they have the same police incident number, that is, if they have been arrested for the same underlying criminal event. For the rest of the paper, I refer to individuals with the same police incident number as codefendants in the same case. In sections IIB and III, I discuss the distribution of defendants across attorney types in multiple- and single-defendant cases (i.e., police incidents). In the main analysis, I restrict attention to criminal cases in which the defendant was initially represented by an appointed counsel—either a PD or a CA. I define the initial attorney-type assignment as the first attorney who represented the defendant within a case.[3]

B.   Defendants and Assignment across Attorney Types in San Francisco

The provision of indigent defense services varies widely across jurisdictions in the United States. This includes both the type of attorney (CA or PD) as well as the level of compensation the attorney receives. In San Francisco, the public defender's office was established in 1921 and represents the majority of indigent defendants. The CA attorneys in San Francisco (known as "conflict attorneys") are elected from a

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[1]Iyengar (2007) and Roach (2014) compare the case outcomes of defendants assigned a PD relative to a CA using a two-step estimator. The first step uses a data-driven procedure to detect location-year pairs in which the attorney-type assignment is not correlated with the defendant and case characteristics. The second step compares case outcomes across attorney types within the selected location-year pairs.

[2]See https://oag.ca.gov/law/code-tables for more details.

[3]Transitions across attorney types between the charging and disposition stages (when the case is terminated) are infrequent. The results that follow are similar when instrumenting the terminating attorney type with the one who was initially assigned.

list of attorneys on a rotational basis. The Bar Association of San Francisco manages the conflict attorney lists, which are ordered by panels on specific categories (e.g., juvenile delinquency, felony, felony appeals, serious felony, and misdemeanor).[4] To be eligible to enter the list in a given panel, an attorney must show she satisfies strict requirements of competency set forth by the Bar Association of San Francisco. Importantly, attorneys in San Francisco are not obliged to represent indigent defendants, and the court compensates them for their work. According to the guidelines of the State Bar of California, the compensation of CAs should be similar to that of comparable PDs.[5]

Indigent defendants are first assigned to the PD office in San Francisco. The PD office then decides whether it can represent the defendant(s). The most frequent reason for the PD office being unable to represent a defendant is a conflict of interest—for example, if the PD office previously represented a witness or victim in the case. When the PD office is unable to represent a defendant, she is assigned a CA according to a standard rotational mechanism based on the list of eligible CAs. In multiple-defendant cases, the within-case assignment to either a PD or a CA is determined just before the arraignment hearing. The PD attorney present in the courtroom that day receives the prearraignment packet approximately one hour before the arraignment. The packet contains a description of the charges and the police reports. The attorney then has one hour to review the charges and police reports, talk to the defendants, and determine which one she will represent and which one will be assigned a CA.

Appendix figure A.1 shows the distribution of defendants across attorney types in San Francisco from 2006 to 2015. In single-defendant cases (panel A), the vast majority of indigent defense representation is done by the PD office; however, within multiple-defendant cases, the division is almost equal (panel B). This prevalence of CAs in multiple-defendant cases results from the fact that the PD office in San Francisco avoids representing more than one defendant within a case, as is discussed in more detail in section III.

Table 1 presents summary statistics on criminal defendants in San Francisco. Column 2 includes all cases with more than one defendant and column 3 all cases with at least one defendant who is represented by a PD and another by a CA such that both a PD and a CA are present in the case. Approximately 50% of the defendants are Caucasian, and African Americans are overly represented. The share of African Americans and women is higher in multiple-defendant cases (columns 2 and 3) relative to single-defendant cases (column 1). The aver-

TABLE 1.—DEFENDANTS' CHARACTERISTICS IN SINGLE- AND MULTIPLE-DEFENDANT CASES: SAN FRANCISCO

	Single Defendant (1)	Multiple Defendant (2)	Multiple Design (3)
Age	35.503	32.250	32.181
White	0.530	0.453	0.436
Black	0.440	0.516	0.536
Female	0.177	0.239	0.238
Hispanic	0.195	0.201	0.203
Highest filed charge felony	0.518	0.829	0.873
Predicted conviction	0.586	0.614	0.619
Predicted prison > 0	0.057	0.058	0.058
Num. prior incarcerations	0.174	0.146	0.158
Num. prior convictions	0.521	0.470	0.485
Num. prior arrests	2.237	2.027	2.113
Dropped charges	0.246	0.249	0.230
Convicted	0.598	0.586	0.609
Prison	0.063	0.080	0.079
Jail	0.098	0.070	0.071
Observations	64,191	9,576	7,164

The table presents descriptive statistics for all criminal defendants in San Francisco between 2006 and 2016. Columns 1 and 2 include all incident-defendant pairs in the analysis data set and are not restricted to indigent defendants. Columns 3 includes only indigent defendants in multiple-defendant cases that have both a PD and a CA. The third column reports the descriptive statistics for the main analysis sample in which the assignment of defendants to attorney type is as good as random within a case.

age age in multiple-defendant cases is lower than in single-defendant cases: 32 years old relative to 35. Multiple- and single-defendant cases vary also in the severity of the charges: 82.9% include a felony charge relative to 51.8%, respectively, and the probability of being incarcerated in prison (jail) is higher (lower) in multiple-relative to single-defendant cases. In almost a quarter of both single- and multiple-defendant cases, the charges are eventually dropped.[6]

The main analysis sample includes multiple-defendant cases in which both a PD and a CA are present (column 3). Among the sample of multiple-defendant cases, the vast majority of the defendants (7,164 out of 9,576) are in cases that include both a PD and a CA. The characteristics of the defendants in our analysis sample (column 3) are similar to the overall sample of multiple-defendant cases (column 2) in defendant demographics, charge severity measures, and case outcomes.

Importantly, the vast majority of indigent defendants are assigned to the PD office, and being assigned to a CA is not common in single-defendant cases; however, in multiple-defendant cases, approximately 50% of the defendants are represented by a CA (see appendix figure A.1). The main policy decision in jurisdictions such as San Francisco is how to provide legal representation to indigent defendants whom the PD office is unable to represent. This happens frequently in multiple-defendant cases. Thus, although multiple-defendant cases include only 15% of indigent defendants, they are a key policy margin for the decision of whether to assign an individual to the PD organization or to a CA.

[4]Note that in the PD office, the assignment of defendants to attorneys is also according to a standard rotation. Certain types of rare cases (e.g., homicides) are distributed in a separate rotation, based on consideration such as experience, availability, and caseloads.

[5]The Attorney Bar Association guidelines for providing indigent defense services says: "Taking into account the expense of office overhead, in no event should the net hourly compensation for assigned counsel be less than the aggregate hourly compensation of an institutional defender of the same level of skill and experience." https://www.calbar.ca.gov/Portals/0/documents/ethics/Indigent_Defense_Guidelines_2006.pdf.

[6]Codefendants can sometimes be tried in separate trials. In our sample, approximately 95% were initially assigned to the same courtroom and appeared before the same judge.

Figure 1.—Validating the Conflict-of-Interest Hypothesis

(a) Ave. number of attorneys of each type

(b) Distribution of defendants across attorneys
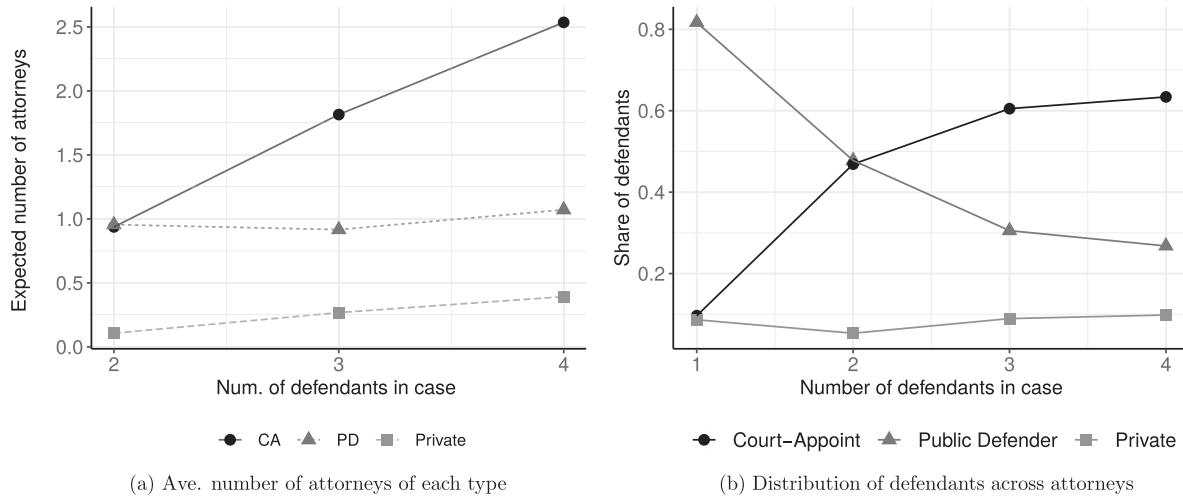
The figure presents descriptive evidence on the distribution of defendants across attorney types in multiple-defendant cases in San Francisco. (a) The *x*-axis describes the number of defendants in a case and the *y*-axis the average number of attorneys from each type (e.g., PD or CA). For example, panel a shows that in multiple-defendant cases in San Francisco with three defendants, there are on average almost two CAs and approximately one PD. (b) The distribution of attorney types (i.e., the share of defendants represented by PD, CA) by the size of the multiple-defendant case. As the number of codefendants in a case increases, the share who are assigned to a PD decreases, and the share who are assigned a CA or represented by a private attorney increases.

III. Identification Strategy: Conflict-of-Interest Considerations in Cases of Multiple Defendants

In multiple-defendant cases, the public defender's office is usually constrained to represent only a single defendant due to potential conflicts of interest (Moore, 1984; Allison, 1976; Lowenthal, 1978; Prado et al., 1993). The Committee to Review the Criminal Justice Act, 1991–1992, determined that a "defender organization cannot properly undertake the representation of more than one defendant in a multi-defendant prosecution because a conflict of interest almost invariably results." In such circumstances, usually a PD is assigned to one of the indigent defendants, and the others are appointed to CAs. In San Francisco, the policy of the PD office is to avoid representing codefendants.[7]

Figure 1 shows how conflict-of-interest considerations affect the attorney-type assignment in multiple-defendant cases. Panel A shows the average number of defendants who are represented by each type of attorney (e.g., PD, CA) by the number of defendants in the case, and panel B shows the share of defendants within a case who are assigned to each type of attorney. The figure clearly validates the conflict-of-interest hypothesis that the PD organization usually does not represent more than one defendant within a case.

The within-case comparison can be viewed as matching together similar units and then quasi-randomly assigning some to treatment and the others to the control regime. Naturally, the setting, rather than statistical methods designed to optimize covariate balance, creates the matches. The matches are predetermined outside the control of the researcher. Thus, covariate balance can be used as a testable implication to vali-

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[7]Indeed in 96% of multiple-defendant cases, the PD office did not represent more than one defendant.

date the assumption that treatment was exogenously assigned within each case.

A. Overcoming Selection in the Assignment of Defendants between PDs and CAs

I begin by documenting extensive selection in the assignment of defendants between PDs and CAs, which is essential to overcome in order to understand whether PDs and CAs provide the same level of legal representation. If the cases that are assigned to a PD are different in their severity and complexity compared to those assigned a CA, then these differences need to be taken into account when the case outcomes are compared. To summarize the differences in the charges that defendants who are assigned a PD relative to a CA are facing, I use covariate indices based on a Oaxaca (1973) decomposition. In appendix B, I describe the exact construction of the covariate indices that are used to document selection and test for balance within a multiple-defendant case. I observe offense codes that are highly predictive of the case outcomes but are too numerous to show comparisons for each category separately. The dimensional reduction that is conducted using the summary covariate indices allows me to present one summary measure that includes imbalances in demographics, charge severity measures, and criminal history all at once.

To empirically test for differences between defendants who are assigned a PD compared to a CA, I use the following econometric model,

$$X_i = \beta \cdot PD_i + \alpha_{j(i)} + e_i, \tag{1}$$

where the β coefficient is the average difference in characteristic X_i across defendants represented by a PD relative to a CA. When case fixed effects $\alpha_{j(i)}$ are not included, the β

FIGURE 2.—DIFFERENCES IN OBSERVABLE CHARACTERISTICS BETWEEN DEFENDANTS ASSIGNED TO PD VERSUS CA, SAN FRANCISCO, 2006–2016
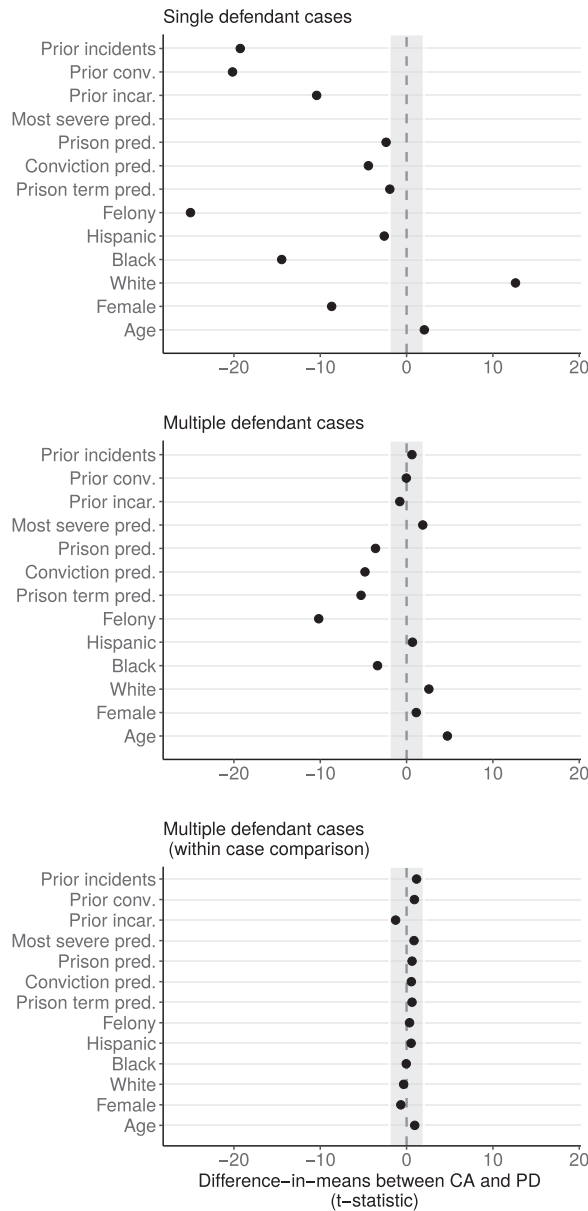
Each point on the figure is a t-statistic of the β coefficient in equation (1). Standard errors are clustered at the case level. The two upper plots show the results from specifications without case FE, and the bottom plot reports the results when case FEs are included. The gray area represents the 95% confidence interval in which the null that the coefficient β is 0 cannot be rejected. Since the number of observations when estimating a given specification for each of the outcomes is the same and the figure reports t-statistics rather than β coefficients, then the gray area is the same for all the t-statistics of each of the outcomes and is approximately ±1.964 around 0.

coefficient is exactly the difference in means, and when they are included, it is the within-a-case difference in means. A cross-case comparison, when fixed effects are not included, can be sensitive to omitted-variable bias if there is selection in the type of cases assigned a PD relative to a CA.

Figure 2 provides a visualized summary of the estimates of equation (1) for different samples and specifications. Each point on the figure is a t-statistic of the β coefficient in equation (1). The figure visualizes clearly how the selection in the attorney-type assignment goes away once the comparison is

conducted within a case. Panel a shows clear evidence of selection in the assignment of defendants between PD and CA in single-defendant cases. The CA attorneys represent significantly more African Americans, women, and defendants who are facing more severe offenses and a longer expected imprisonment time if convicted. This pattern of nonrandom sorting is the result of two factors. The first is that in San Francisco, the PD office handles the vast majority of cases, which are mostly not felony cases. Second, in cases with more severe charges, there is a higher likelihood of a conflict of interests (e.g., between codefendants), which leads to a higher proportion of defendants who are assigned to a CA among defendants facing felony-level charges.

In panel b, I restrict attention to multiple-defendant cases with both PD and CA; however, I do not take into account variation in case-level characteristics (e.g., the number of defendants). The differences between attorney types in panel b are based on a comparison of defendants across court cases. In multiple-defendant cases, a cross-case comparison can provide a false impression as the number of CAs changes with the number of defendants in the case, while the number of PDs is approximately fixed at one. When the severity of the charges increases with the number of defendants, it is necessary to adjust for case fixed effects (i.e., conduct a within-case comparison) to obtain a reliable estimate of the differences in charge characteristics between defendants who are assigned a PD relative to a CA within a case.

Finally, panel c shows that within a multiple-defendant case, the treated and control units are comparable in demographic characteristics, charge severity measures, and criminal history. Appendix table A.1 complements the t-statistics in figure 2 by reporting the estimates of the β coefficient from equation (1) and its standard error. The table shows that the increase in balance by conducting the within-case comparison is a result of smaller β coefficients and not due to larger standard errors.

Furthermore, appendix figure A.2 reports the results of a joint F-test for whether the controls are predictive of the attorney-type assignment. The figure reports the observed value of the test statistics, the F-statistic, and its likelihood under the null distribution of random assignment of defendants to attorney types. The null distribution was generated by a Monte Carlo simulation with 1,000 random permutations of the PD assignment within a case, in multiple-defendant cases, and across cases in single-defendant cases. In single-defendant cases, the assignment is clearly not done at random; however, in multiple-defendant cases, there is no evidence of sorting within a case, and we cannot reject the null hypothesis of random assignment.

Finally, appendix table A.2 documents substantial within-case variation in observables. For example, in 33.8% of the cases, there is at least one defendant with a prior arrest and one without. In 22% of the cases, there is at least one black and one non-black defendant. The above analysis shows that this variation is not correlated with the within-case attorney-type assignment, which is consistent with the assumption that

the multiple-defendant scenario can be considered a natural experiment with exogenous PD assignment within a case.[8]

IV. The Attorney-Type Effect on Case Outcomes

The main objective of this paper is to estimate the causal effect of assignment to a PD relative to a CA on the defendant's case outcomes. I argue that by conditioning on a sample of multiple-defendant cases with both a PD and a CA within a case, the within-case assignment to a PD can plausibly be considered as good as random. As outlined in further detail in section III, a PD office is constrained to representing only one client in a multiple-defendant case due to potentially conflicting interests among codefendants. In section III, the balance tests show that within a case, the defendants with a PD and those with a CA are not observably different. Therefore, comparing outcomes using within-case variation can limit selection biases that may arise from comparing outcomes between cases.

Let $PD_i \in \{0, 1\}$ be an indicator of whether defendant i was first assigned a PD, and let Y_i denote a sentencing outcome of interest (e.g., length of imprisonment). A standard causal model that relates the defendant's attorney type to his case outcomes is

$$Y_i = \beta \cdot PD_i + X_i'\Gamma + \alpha_{j(i)} + \epsilon_i, \quad (2)$$

where $j(i)$ is a mapping from defendant i to court case number j, X_i is a vector of observable pretreatment variables that include measures of the severity of the filed charges (e.g., offense codes) and the type of charges (e.g., felony, misdemeanor), the demographic characteristics of the defendants and their criminal history; and β is the effect of assignment to a PD on case outcome Y_i.[9]

Table 2 reports the estimation results. In the full sample with both single- and multiple-defendant cases, individuals who are first assigned a PD are sentenced to a shorter prison term by nearly 33.1% relative to those assigned a CA. This un-

adjusted difference falls to 18% with the inclusion of controls, which suggests that a naive comparison can be influenced by selection bias in the assignment of defendants to different attorney types. Differences in observable defendant and charge characteristics explain a substantial share of the sentencing differences between those who are assigned a PD versus a CA. Altonji, Elder, and Taber (2005) show that differences between the covariate-adjusted and unadjusted estimates can be interpreted as a measure of selection due to omitted variables, which reinforces the claim that a simple regression that relies on a strong, unverifiable conditional independence assumption will not identify a causal relationship.

Table 2, columns 4 to 6, shows that within multiple-defendant cases, those assigned a PD are sentenced to a 10.5% shorter prison term relative to their codefendants who are represented by a CA. The estimate with covariate adjustment (a 10.7% shorter prison term) is not statistically different from the unadjusted estimate, which stands in contrast to the differences in estimates with and without covariate adjustments in the full sample that includes single-defendant cases. Column 6 reports the results (10.1%) once controlling for prior representation by a PD, which also does not have an impact on the estimate. Assignment to a PD also decreases the probability of conviction by 6.4% (3.9 percentage points) and any prison time by 22% (1.8 percentage points) relative to the mean rate of imprisonment. Defendants assigned to a PD are also more likely to be released on bail (i.e., 1.8 percentage points less likely to be detained in jail); however, this estimate is statistically significant only at the 10% level. Finally, I find the attorney type of the defendant has no statistically significant effect on the sentenced jail term (0.3 percentage points).[10]

One nuance when interpreting the above estimates is that assigning a defendant to a PD can also have an impact on the case outcomes of his codefendants. For example, if the PD uncovers police misconduct in obtaining key evidence and gets it excluded, then it can have an impact on all the defendants in the case. Therefore, the above estimates are potentially a lower bound on the impacts of a PD on case outcomes because they do not take into account that the other codefendants in the case can also be potentially positively affected.

V. Attorney Characteristics

The differences in case outcomes that have been documented above can be the result of several mechanisms. First, attorneys who select to work in a PD office can have different characteristics (e.g., experience, demographics) from those who work as private attorneys and accept appointments from the court (CA). Second, a defendant assigned to a PD office

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[8]I also conducted interviews regarding the within-case assignment process of defendants to a PD or a CA. The San Francisco public defender throughout my sample period, Jeff Adachi, said that the policy of his office is to attempt to represent the defendant who is facing the most difficult situation or harshest charges, that is, the one who is in most need of help. However, representatives from the Bar Association of San Francisco, which is responsible for administring cases to CAs, argued that the PD office potentially chooses cases that are easier to win. In the data, I do not see any evidence of selection in the assignment to a PD based on charge severity, criminal history, or demographic characteristics, as is documented in the balance tests discussed above. Importantly, the PD attorney present in the courtroom that day has a short amount of time to review the charges and police reports, talk to the defendants, and decide on the attorney assignment. Thus, it is not surprising that the degree to which selection can occur is limited. However, if the PD office does takes cases that are more difficult or "worse" on unobservables, then my findings can be interpreted as conservative estimates of the impact of being assigned a PD relative to a CA.

[9]The β coefficient should be interpreted as the effect of being assigned a PD relative to a CA given that these are the two options of representation. I am not comparing the effect of being assigned a CA relative to a counterfacual that both defendants are represented by the same PD office.

[10]Note that using a nonlinear model like probit will yield similar results. For example, when restricting attention to multiple-defendant cases with only two defendants and controlling for the type of charges, the effect of a PD on the likelihood of conviction is 4.19 percentage points using a probit model and 3.78 percentage points using OLS. However, due to the large number of dummy variables (i.e., case-level fixed effects), it is computationally much simpler to use OLS.

TABLE 2.—THE EFFECT OF BEING INITIALLY ASSIGNED A PD VERSUS A CA ON THE CASE SENTENCING OUTCOMES: SAN FRANCISCO

	Coefficient of Interest: Initial PD Indicator					
	All Indigent		All Multiple	Multiple PD & CA		
	(1)	(2)	(3)	(4)	(5)	(6)
Convicted	−0.070***	−0.016***	−0.029***	−0.037***	−0.039***	−0.039***
	(0.005)	(0.005)	(0.009)	(0.009)	(0.009)	(0.009)
Ave. Dep.	0.592	0.592	0.586	0.609	0.609	0.609
Incarcerate	−0.050***	−0.020***	−0.009	−0.012	−0.014*	−0.012
	(0.004)	(0.004)	(0.007)	(0.008)	(0.007)	(0.008)
Ave. Dep.	0.162	0.162	0.144	0.146	0.146	0.146
Prison	−0.059***	−0.032***	−0.016***	−0.018***	−0.019***	−0.018***
	(0.003)	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)
Ave. Dep.	0.068	0.068	0.08	0.079	0.079	0.079
Jail	0.005	0.010***	0.004	0.003	0.003	0.003
	(0.003)	(0.003)	(0.005)	(0.006)	(0.006)	(0.006)
Ave. Dep.	0.099	0.099	0.07	0.071	0.071	0.071
asinh(Incarceration term)	−0.357***	−0.180***	−0.099***	−0.108***	−0.109***	−0.104***
	(0.020)	(0.019)	(0.031)	(0.033)	(0.033)	(0.033)
Ave. Dep.	0.546	0.546	0.59	0.597	0.597	0.597
asinh(Prison term)	−0.331***	−0.189***	−0.100***	−0.105***	−0.107***	−0.101***
	(0.019)	(0.018)	(0.028)	(0.030)	(0.030)	(0.030)
Ave. Dep.	0.359	0.359	0.436	0.435	0.435	0.435
No bail	−0.086***	−0.019***	−0.010	−0.015	−0.018*	−0.018*
	(0.005)	(0.005)	(0.009)	(0.010)	(0.010)	(0.010)
Ave. Dep.	0.338	0.338	0.342	0.359	0.359	0.359
Case FE	No	No	No	Yes	Yes	Yes
Controls	No	Yes	Yes	No	Yes	Yes
Prior PD control	No	No	No	No	No	Yes
Observations	67,613	67,613	9,576	7,164	7,164	7,164

Each cell in the table contains the coefficient on an indicator whether the defendant was initially assigned a PD or a CA. The standard errors are cluster-robust at the case level, which is the level in which treatment—attorney type—is assigned. Columns 1 and 2 include all indigent defendants and no case-level fixed effects. The difference between them is whether control variables are included (column 2) or not (column 1). Column 3 restricts the sample to multiple-defendant cases but does not impose that both a PD and a CA will be present at each case. In other words, the effect of being assigned a PD is identified using variation across cases and not within a multiple-defendant case. Columns 4 to 6 restrict the sample to multiple-defendant cases that include both a PD and a CA. Column 4 does not include case-level fixed effects, and column 5 does include case-level fixed effects. Column 6 also controls for whether a defendant was previously represented by the PD office. Both incarceration and prison terms are measured in months. I approximate the log(·) function using the asinh(·) function, a common procedure when the outcome of interest is both skewed and has a mass at 0. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

is represented by an organization and not only by a specific attorney. Within the PD office, the attorney assigned to represent the defendant can consult with other professionals in the office and be exposed to organizational norms and knowledge that have been accumulated through past representation of similar cases.[11]

In the court records of San Francisco, I observe the name of the attorney who represented the defendant and his type (e.g., CA, PD). I use name tabulations from the U.S. Census 2000 and the Social Security Administration to infer the race, ethnicity, and gender of the attorneys from their names. Information on the institutions that awarded BA and JD degrees to the attorney was obtained using the search engine of the state bar association. To obtain the ranking of each institution, I use the information that is publicly available on *U.S. News*.[12]

Table 3 documents the characteristics of PDs and CAs. Relative to CAs, PDs are younger, have fewer years of experience, and are demographically more diverse, and they studied in more selective colleges (the best ranking for a university or

TABLE 3.—ATTRIBUTE CHARACTERISTICS BY ATTORNEY TYPE, AT THE DEFENDANT LEVEL: SAN FRANCISCO

	CA	PD	Private
Female	0.253	0.472	0.194
Asian	0.039	0.166	0.036
White	0.573	0.408	0.552
Hispanic	0.031	0.099	0.068
Ave. Rank BA (USnews)	54.661	44.767	51.675
Ave. Rank JD (USnews)	77.015	47.981	65.995
Ave. No rank BA (USnews)	0.169	0.137	0.198
Ave. No rank JD (USnews)	0.895	0.836	0.847
Experience (median)	22.287	6.256	16.776
Num. cases first attorney (median)	55	236	11
Num. cases terminating attorney (median)	73	189	15

The table shows the characteristics of the initial attorney who represented each defendant. All the calculations in the table were done at the defendant level. The numbers are attorney characteristics averaged across defendants. This is equivalent to the average of attorney characteristics reweighted by the number of defendants whom each individual attorney represented. The "Num. cases first attorney" is the number of cases in which the attorney was the first assigned attorney in a case, and similarly, "Num. cases terminating attorney" is the number of cases in which the attorney was the terminating attorney.

college is number 1). Two factors that can explain why young individuals who obtained their JD in high-ranked universities choose to work in a PD office are ideological motivation and financial incentives. Regarding the ideological motivation, PDs may desire to represent individuals who cannot afford to hire a private attorney and will be overrepresented by individuals from minority communities compared to the general population. As for financial, Field (2009) documents that in recent years, higher-ranked JD programs provide fee

[11]For example, the PD office advocated for the use of checklists by PDs to improve the case outcomes of clients (Adachi, 2015). Writing and disseminating checklists among the attorneys in the office is an example of the advantages of working in an organization that accumulates knowledge and shares it with its members.

[12]*U.S. News* publishes a ranking of universities and colleges in the United States. The ranking can be for the entire institution or for a specific program such as a law school. https://www.usnews.com/.

remissions and subsidies to students who work in public interest jobs after graduation. Working in a PD office is considered a public interest job, unlike being a CA.

To understand how much of the causal attorney-type effect can be explained by attorney characteristics, I add them as controls to the regression specification in equation (2). Including attorney characteristics doubles the standard errors and accounts for different shares of the estimated attorney-type effects depending on the case outcome. For prison length, the inclusion of attorney characteristics has almost no impact on the coefficient; however, for conviction, it explains almost all of the effect (see appendix table A.3). Once attorney characteristics are controlled for, the estimated differences in case outcomes have the same sign but become noisier and not statistically significant.

This exercise demonstrates that assignment to a PD can have an impact on case outcomes through multiple channels. The first is that the individual is assigned to an organization with all the resources, caseloads, and norms that go with it. Second, the attorneys who work at that organization are different from the ones who act as CAs. These differences in observed and unobserved characteristics also explain some of the estimated PD assignment effects on case outcomes. Importantly, the characteristics of the attorney are not confounders when seeking to identify the effect of assignment to a PD relative to a CA; rather, they are some of the causes or mechanisms that are driving the estimated effects from section IV.

In addition, representation by an organization is inherently different from being assigned to a specific attorney. Indigent defendants are not assigned to an individual attorney in the PD office by the court but rather to an organization. The PD office determines how to divide the workload among its attorneys. One attorney can represent the defendant at the initial stages of the case and another at the more advanced court proceedings, including the plea negotiations. Appendix table A.4 reports the differences in the characteristics of the attorney who first represents the defendant and the terminating attorney. Overall, defendants assigned to the PD office change individual attorneys more often, 52%, relative to 20.7% among those assigned a CA. It is also more frequent that the terminating attorney has more years of experience than the initial attorney among defendants assigned to the PD office.

VI.   Discussion

The vast majority of defendants facing criminal charges require the assistance of court-appointed legal counsel. This paper develops a framework to compare two methods of providing legal representation to defendants who cannot afford to hire an attorney in the private market. I use a new empirical identification strategy and administrative court records from San Francisco to compare the case outcomes of defendants assigned to a public defender (PD) relative to those who are represented by a private court-appointed attorney (CA). The results have direct policy implications on the provision of indigent defense representation. I find that defendants who are represented by a PD, relative to a CA, obtain more favorable case outcomes (e.g., shorter prison sentences, lower probability of any imprisonment).

One explanation for these differences is that attorneys who work for a PD organization are substantially different in their observable characteristics from those who self-select to act as CAs. PDs have fewer years of experience, are demographically more diverse, and studied in more selective institutions in both their BA and JD programs.

A natural question is, How representative are the PD and CA systems in San Francisco? The PD office is a leader in best practices of legal representation of indigent defendants (Burkhart, 2016). In our setting, the compensation of attorneys under the two systems is required to be the same by the guidelines of the State Bar of California. Our results should therefore be viewed as a comparison of PDs and CAs when the two systems are well funded and administered. Thus, our findings are less applicable to places in which private attorneys are forced to represent indigent defendants with little or no compensation.

The method of provision of indigent defense services is part of the bigger question of how the state should supply public services (e.g., police, prison). Should the state establish a PD organization or use the private sector and hire CAs? To answer this question, one of the key issues that needs to be addressed is which kind of attorney will select to represent low-income defendants under each one of the alternatives. Future research is needed to examine what motivates attorneys to select to work in a PD office relative to the self-selection of those who act as CAs. More information is needed to understand how policymakers can mitigate the attorney-type differences that are documented in this study.

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