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All Punishment is Local: The Effects of Jurisdictional Context on Sentence Length

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**Is All Punishment Local?
The Effects of Jurisdictional Context on Sentence Length**

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The author shall share all data and coding for replication purposes.

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Abstract

Objectives: This paper investigates the extent to which contextual and individual factors influence the length of prison sentences in California. Methods: The analysis applies a hierarchical linear model to individual and county-level data. Results: Some characteristics of the racial, organizational, and public safety environments are found to influence the length of prison terms. Conclusions: The findings support the organizational maintenance perspective and the idea of minority incarceration as a response to a perceived crime threat. Political environment is not found to have a significant effect on sentence lengths, and the findings do not support the racial threat hypothesis. The effects of contextual factors are more modest than those of individual attributes including legally relevant variables such as offense severity, prior record, parole status, and Three Strikes eligibility. African-American and younger offenders receive longer sentences, but this effect is not found for Latinos. Substantive, methodological, and policy implications are discussed.

The Effects of Individual and Contextual Factors on Felony Sentences

Many characteristics of criminal defendants and their offenses are known to influence sentencing. A general consensus exists in the literature that legally relevant variables such as the severity of the instant offense and the offender's prior criminal record should, and do, explain most of the variation in sentencing outcomes (Dixon 1995; Johnson 2006; Ulmer and Johnson 2004). Studies have also found links between criminal sentences and factors that are not directly relevant to the crime or the offender's record, such as defendants' race, ethnic origin, gender, and age (Engen et al. 2003; Bushway and Piehl 2001). Along with legally relevant and extralegal offender-level variables, characteristics of the environments in which sentencing takes place may

also influence outcomes (Chiricos and Crawford 1995; Dixon 1995; Ulmer and Bradley 2006; Ulmer and Johnson 2004). Furthermore, the effects of offender-level variables on sentences may vary systematically from one context to another (Britt 2000; Kautt 2002).

Geographic disparity has been observed in the application of federal sentencing guidelines and mandatory minimum sentencing policies such as “Three Strikes and You’re Out” (Alschuler 2005; Bowers 2001). Recent research has found evidence that geographic variation in sentencing outcomes is associated with characteristics of the local political, legal, and/or social environments in which sentencing takes place (Johnson 2006; Helms and Jacobs 2002; Eitle et al. 2002). This paper contributes to the discussion of contextual influences on sentencing by using hierarchical linear models to measure and compare the influence of five theoretically-informed categories of “inputs” that are believed to influence the process of charging and sentencing felony defendants. These are (1) administrative context, (2) political environment, (3) local ethnic and racial demographic composition, (4) economic conditions, and (5) crime context. The effects of many of the individual-level variables discussed above will be measured as well. Interactions between contextual and individual-level variables are examined to determine whether contextual factors influence certain groups of offenders differently.

Organizational Maintenance and Courtroom Administrative Context

According to the organizational maintenance perspective, members of courtroom work groups share a common interest in the timely and efficient disposal of criminal cases, so administrative factors such as the size, capacity, and caseload of a court system may influence the sentences that these work groups hand down (Dixon 1995). Decision makers in courts with heavier caseloads are likely to have less time and inclination to consider sentences outside “normal” ranges (Johnson 2005). Some legal scholars observe that courtroom cultures,

practices, and bureaucratization associated with large court systems are conducive to more lenient sentencing (Eisenstein et al. 1988; Dixon 1995). Using data from Pennsylvania, Ulmer and Johnson (2004) find that practical constraints such as jail capacity, and administrative factors such as the ratio of cases to personnel, influence the decision to incarcerate but have a smaller or no measurable effect on sentence length. The effects of court size and caseload on sentence length are tested in this paper.

Political Responsiveness and Electoral Accountability

California's Superior Court judges, who try criminal cases, are elected by the public in the counties where they serve. District Attorneys are also elected county officials. Both judges and D.A.s make decisions that affect sentencing outcomes, but because California's determinate sentencing structure strictly curtails judicial discretion, a convicted felon's sentence is largely determined by the nature and number of charges initially filed by the prosecuting attorney, and whether the prosecutor recommends a departure from the recommended sentence for each charge.¹ It seems reasonable to believe that prosecutors and judges, like other politicians, are motivated to respond to their constituents' preferences as they carry out their work (Huber and Gordon 2004; Gordon and Huber 2002). Furthermore, voters are likely to choose District Attorneys and judges whose views coincide with their own. Because the decisions made by D.A.s and judges lead to enormous consequences for the lives of defendants and other members of society, it is important to understand the extent to which electoral incentives influence efforts to seek just outcomes in the courtroom.

¹ According to California's determinate sentencing structure, each felony offense was associated with three corresponding prison terms: a "normal" sentence, a longer term to be imposed only when there are aggravating circumstances, and a shorter term to be applied only when mitigating circumstances were present (Judicial Council of California 2007; Watson 2008).

In the following analysis, I test the effect of the political environment on sentence lengths using Republican voter registration by county for 2004. Since the 1964 Presidential campaign, the Republican Party has been associated with “law and order” and greater punitiveness towards crime than the Democratic Party (Beckett 1997; Smith 2004). Thus, one might expect offenders to receive longer prison sentences in counties with a greater proportion of Republican voters if D.A.s and judges act in accordance with the preferences of their constituents. Some studies find significant links between rates of incarceration and indicators of political context such as Republican Party registration, the proportion of a state legislature that is Democratic or Republican, and percentage voting Republican in a presidential election (Helms and Jacobs 2002; Huang et al. 1996; Jacobs and Carmichael 2001; Smith 2004). On the other hand, other recent research, using multilevel methods, concludes that the percentage voting Republican locally has no significant effect on either the odds of incarceration or sentence length (Johnson 2005; Ulmer and Johnson 2004; Weidner et al. 2005).

Social Control and Racial and Ethnic Threat

Social and economic characteristics of the sentencing environment may also influence decisions and outcomes. Critical theorists have proposed that prisons and other institutions are used by those who possess social and political power as instruments to establish and maintain social order and respond to perceived threats to that order (Foucault 1977). Three forms of the social control/threat response concept (racial/ethnic, economic, and crime threat) will be tested in the analyses that follow.

Researchers have found effects on sentence outcomes associated with the racial makeup of the jurisdictions in which sentencing takes place (Johnson 2005, 2006; Ulmer and Johnson 2004). Racial threat theory proposes that the effect of race on social and political outcomes in a

given location will vary depending on the relative sizes of the majority and minority populations (Blalock 1967; Myers and Talarico 1987). In areas with small nonwhite populations, whites may regard their political and social power as secure, but as the minority proportion of the population increases, the perceived threat to existing arrangements may grow (Blalock 1967). The marginal “threat” effect of minority population growth may decline when the nonwhite population reaches a critical mass with substantial social and political influence of their own (Blalock 1967; Britt 2000; Taylor 1998). Thus, the relationship between nonwhite population size and its effect on outcomes like sentence length might assume a curvilinear (inverse-U), rather than linear, shape.

In addition, the criminal justice response to perceived racial or ethnic threat may be either targeted or broad. Increased perception of racial or ethnic threat may result in disproportionate sentencing disparities for the specific group that constitutes the perceived threat (e.g. growth in the black population may result in disparate treatment of blacks but not whites), or sentencing may become more severe for all criminals. In studies of habitual offender sentencing in Florida, Crawford, Chiricos, and Kleck (1998) and Crawford (2000) find that sentencing disadvantage for black defendants is greater in places where the black population is larger. Others find that a proportionately larger African-American population is associated with greater use of prisons in general (Jacobs and Carmichael 2001; Myers and Talarico 1987; Weidner et al. 2005). The following analyses will test for linear and curvilinear, targeted and broad forms of racial and ethnic threat effects.

Economic and Crime Threat

Similar reasoning suggests that the criminal justice system may be used to control a perceived threat posed by economically disadvantaged populations (Britt 2000). Some studies detect a positive relationship between incarceration rates and unemployment rates (Box and Hale

1982, 1985; Chiricos and Delone 1992), though others have found that the relationship between the two is weak or absent (Eitle et al. 2002; Jacobs and Helms 1996). A positive and significant relationship between unemployment and the incarceration rate might have alternative explanations unrelated to “economic threat.” For example, unemployed people might commit more crimes, leading to higher rates of incarceration, or high rates of incarceration and subsequent release may lead to larger populations of unemployed ex-felons in certain neighborhoods. Sentence length, which is less likely to be tied directly to these alternative explanations than incarceration rate, is used as the dependent variable here.

A parallel “crime threat” hypothesis suggests that higher crime rates may lead to harsher criminal charging or sentencing in efforts by prosecutors or judges to curb crime, respond to the public’s demands, or fulfill their own campaign promises to “get tough on crime” (Crow and Johnson 2008; Ulmer et al. 2007). This hypothesis is tested as well, using the county violent crime rate as an independent variable. Finally, prominent scholars have observed that crime control efforts in the United States have often had disproportionate negative impacts on minority populations, particularly African-Americans (Tonry 1995; Kennedy 1997; Mauer 2004; Chiricos and Crawford 1995). Interactions between crime rate at the county level and race/ethnicity at the individual level are tested to determine whether race-specific crime threat effects are present.

Data and Model

The analyses presented below are conducted using multilevel, or hierarchical, linear models. The individual-level data were provided by the California Department of Corrections and Rehabilitation (CDCR). Data are included for 93,033 male inmates from throughout California. The dataset includes all male white, black, and Latino sentenced inmates housed in CDCR correctional facilities on August 31, 2006, who entered prison for their most recent

offense in the years 2002 through 2006 to serve sentences for violent, property, or drug offenses. The county-level data, collected separately, include political, administrative, demographic, economic, and crime variables corresponding to each of California's 58 counties.

Data were available for all inmates housed in the prison system on August 31, 2006, but the sample was narrowed to those who entered from 2002 to 2006 to reduce heterogeneity associated with changes in county characteristics and sentencing policy over the years. Because the data comprise a cross-section of inmates on a specific date, individuals who entered between 2002 and 2006 and completed their sentences before that date are omitted. Thus, the dataset underrepresents the population with the shortest prison stays (between one and four years, depending on when they entered). Because of a small number of extreme outliers, values from 601 to 1200 months were truncated to 600 months. Inmates serving life sentences are excluded as well. The effect of these selection biases is to undersample the offenders who received the most and least leniency in the courtroom. Therefore, estimates of sentencing disparities will be imperfect; actual disparities may be greater than those observed using these data.

Ideally, a comprehensive study of sentencing would include information on offenders from the arrest stage forward, including those who were not incarcerated. It would include data on modes of conviction, all charges filed and dropped, and rates and reasons for departures from the presumptive determinate sentence. Studies that use such data have been conducted in Pennsylvania, Washington, Minnesota, and the federal system, which have sentencing commissions that collect, analyze, and share courtroom data (examples include Engen et al. 2003; Everett and Wojtkiewicz 2002; Johnson 2005; Kautt 2002; Steffensmeier et al. 1998). However, this has not been possible in California, due to the paucity of publicly available court data coupled with a strong culture of secrecy prevalent among prosecutorial offices (Davis 2007;

Bibas 2006; Bandes 2006). Analysis of available inmate data can produce substantively meaningful and methodologically sound findings about some aspects of sentencing, but one must keep in mind limitations due to the patterns of over- and under-representation discussed above.

***Table 1 about here ***

Descriptive statistics for offender-level and county-level variables are displayed in Table 1. The dependent variable in the model is sentence length in months, converted to natural-logarithm form to offset the variable's positively skewed distribution. This variable ranges from 8 to 600 months, with a mean of about 85 months and a median of 48 months.²

Several legally relevant independent variables are included in the model. These include the primary offense for which each inmate was incarcerated (dummy variables representing 23 separate offense categories). About 44 percent of inmates were convicted of violent offenses, 27 percent for property offenses, and 29 percent for drug offenses. Parole status is operationalized as a dummy variable coded 1 if the offender is a parolee convicted of a new offense (27 percent of the cases), and another coded 1 if the offender was returned to custody for a parole violation (13 percent), with non-parolees as the reference group (60 percent). A continuous variable represents the total number of serious and violent prior convictions on the inmate's past record (ranging from 0 to 94, with 72 percent having no priors), and dummy variables indicate whether the inmate was convicted as a "second striker" (24 percent of the sample) or "third striker" (2 percent) under California's "Three Strikes and You're Out" law.³ Extralegal individual-level

² California prisons are supposed to house individuals serving sentences of one year or longer. Those serving terms of less than 12 months most likely received credit for time served in jail or are serving the remainder of a suspended sentence after a parole revocation.

³ The Three Strikes law, which went into effect in 1994, requires a doubled sentence for any felony conviction if the offender has one prior serious or violent offense (a "second striker") and a mandatory sentence of 25 years to life if the offender has two prior serious or violent offenses (a "third striker"). The phrase "serious or violent" refers to the list of approximately 40 offenses and enhancements listed as "serious" in Penal Code Section 1192.7(c) or 23 offenses and enhancements categorized as "violent" in California Penal Code Section 667.5(c). The "serious" list encompasses all of the offenses on the "violent" list, with a few minor differences.

variables include the inmate's race or ethnicity and age. Twenty-eight percent are African-American, 43 percent are Latino, and 29 percent non-Hispanic white.⁴ One-quarter of the inmates are 14-24 years old, 72 percent are 25-54, and 3 percent are 55 and up. The county in which the inmate's latest conviction was adjudicated serves as the link between the individual-level and county-level datasets.

In the county-level dataset, measures of courtroom administrative context include dummy variables for small (1-20 judges in 2005) and large (100 or more judges) court systems, as well as the number of cases per deputy district attorney to measure caseload. The racial and ethnic threat hypotheses are operationalized using the percentages of each county's population who are African-American and Latino from the 2000 Census. Centered and squared values of these terms are included to test whether the racial/ethnic threat effect has a curvilinear form, declining or increasing at low or high values of each group's share of the population.⁵ To describe the political environment, the county dataset includes the proportion of registered voters who were registered as Republican in 2005. The county unemployment rate from the year 2002 is included to capture the economic threat effect, and the violent crime rate from the year 2002 represents the crime threat. A correlation matrix of the county-level variables found only two significant correlations, between the dummy variables for "small court system" and "large court system" (Pearson's correlation -0.395, $p < 0.01$) and between "small court system" and violent crime rate (Pearson's correlation -0.406, $p < 0.01$).

Analysis, Findings, and Discussion

⁴ Racial and ethnic categories are determined from inmate self-reports and intake officers' observations. Individuals whose race or ethnicity falls into a category other than white, black or Latino were removed from the data set. Asian/Pacific Islander and Native American Indian inmates were originally included, but were dropped from the data set because of the lack of significant findings associated with their small numbers.

⁵ To reduce collinearity between the linear and quadratic county-level African-American and Latino population variables, centered and squared race/ethnicity variables were calculated by subtracting the mean value of each of these variables from the value corresponding to each case, and then squaring the resulting term.

Model 1: Unconditional Model

The analysis begins with an unconditional hierarchical linear model, which includes the natural-log of sentence length as the dependent variable, and no covariates at either Level 1 (offender level) or Level 2 (county level). The Level 2 variance term ($\tau = 0.015$) is statistically significant ($p < .001$), indicating variation in sentence lengths between counties, but the intraclass correlation coefficient is 0.019, meaning that only 1.9 percent of the variance in sentencing outcome is between counties, while the remaining explainable variance is associated with individual-level case characteristics.⁶

Model 2: Individual-level Effects, Legally Relevant and Extralegal

When individual-level covariates corresponding to legally relevant factors (number of serious or violent prior convictions, offense type, parole status, and second or third strike) and extralegal variables (race/ethnicity, age, sex, and year incarcerated) are added to the model, each of these covariates is statistically significant. The individual-level variance component (σ^2) shrinks considerably, from 0.75 in the unconditional model to 0.29. The individual-level covariates explain 62 percent of the within-unit variance in sentence length, as determined using a formula suggested by Kreft and de Leeuw (1998).⁷ The county-level variance component becomes even smaller ($\tau = 0.0067$), but it is still significant ($p = 0.000$) indicating that the covariates included in this version of the model do not explain all of the county-to-county variation in sentence length. About 55 percent of the between-unit variance is explained by the individual-level covariates.⁸ A model comparison test using deviance statistics indicates improvement in fit ($\chi^2 = 89294$, 32 d.f., $p = 0.000$) from Model 1 to Model 2. The results of

⁶ Intraclass Correlation Coefficient = $\tau_{00} / (\tau_{00} + \sigma^2) = 0.0148 / (0.0148 + 0.75397) = 0.01925$

⁷ (Unrestricted error – restricted error) / restricted error = $(0.754 - 0.289) / 0.754 = 0.617$

⁸ $(0.0148 - 0.0067) / 0.0148 = 0.547$

Model 2 are summarized in Table 2, with antilogs of the estimated coefficients (e^{β}) shown in the rightmost column to facilitate interpretation of each variable's effect.

***Table 2 about here ***

Effects of Legally Relevant Variables

The parameter estimates associated with legally relevant variables are shown in the upper part of Table 2. Offense severity and prior record are primary determinants of the punishment received, which is consistent with the substantive rational legal perspective (Savelsberg 1992), and prior scholarly research (Dixon 1995; Johnson 2006; Ulmer and Johnson 2004).

The results from Model 2 show that in comparison to the reference group, assault and battery (as opposed to assault with a deadly weapon), all of the violent offenses have significant positive coefficients ($p = 0.000$), with first- and second-degree murder, rape, and kidnapping earning the longest sentences. Likewise, all of the property offenses except for first-degree burglary (burglary of an inhabited residence) have statistically significant ($p = 0.000$) negative coefficients corresponding to average sentence lengths about 25 to 26 percent shorter than the average sentence for assault and battery. Among drug offenses, average sentences for manufacture and sale of controlled substances are significantly longer than the sentence for assault and battery, possession for sale of controlled substances is not statistically significant, and all other drug-related offenses have significantly shorter sentences, with sentences for possession the shortest. These findings appear to be consistent with the principles of proportionality in sentencing, reflecting prison terms commensurate with offense severity.

The variables representing prior convictions, second- and third-striker status, and parole status all have statistically significant effects in the expected directions at the $p < 0.001$ level. At the mean values of the other variables in the model, each additional serious or violent prior

offense on a defendant's prior record is associated with a 3.6 percent increase in the length of the prison term. Prior record is one of the criteria that judges may invoke to justify a decision to exceed the presumptive determinate sentence. The effect of prior convictions is observed in addition to the severe penalties imposed on felons who have "second striker" or "third striker" status. Offenders who are incarcerated under the "second strike" provision of California's Three Strikes law earn sentences that are, on average, about 37 percent longer than they would have received otherwise, and those who are imprisoned for a "third strike" must serve 25 years to life, which is, on average, about 4.6 times longer than their sentences would be otherwise.

Inmates returned to prison on parole violations receive 16 percent shorter sentences than non-parolee offenders. This is not surprising, as parole violations often do not involve new felonies and violators can be ordered to complete previously suspended sentences rather than receiving new, full sentences. In addition, parolees receive 2.4 percent shorter sentences even when they must serve new prison terms. This may reflect their increased willingness to accept plea offers in comparison to non-parolees, or prosecutors' increased willingness to offer them plea deals in the interest of expediency.

Extralegal Variables

Along with the legally relevant variables discussed above, several extralegal variables, shown at the bottom of Table 2, are also associated with statistically significant differences in sentence outcomes.⁹ Age has a positive correlation with sentence length. Young inmates (14 to 24 years of age) have sentences that are about 7 percent shorter, and the oldest group (55 and up) have 6 percent longer sentences compared to those between 25 and 54 years of age, even when

⁹ The variable representing year admitted has a significant negative coefficient ($\beta = -0.206$, $p = 0.000$), but this most likely reflects the sample selection bias discussed above; inmates with shorter sentences who entered in the latter part of the time period from 2002-2006 are more likely to remain in the data sample, while many of those who entered earlier had been released before August 31, 2006. For the purposes of this analysis, the year variable serves as a control for underlying trends over time, but the coefficients associated with it are not substantively meaningful.

the number of serious and violent priors is controlled.¹⁰ This finding is inconsistent with existing research that has found a curvilinear relationship between age and both sentence length and likelihood of incarceration (Steffensmeier et al. 1995). One possible explanation is that older offenders may receive leniency earlier in the criminal justice process, so only the worst elderly criminals end up behind bars.¹¹ Older offenders may also have longer prior records including not only serious and violent offenses (which were controlled), but other offenses. Combined with California's relatively inflexible determinate sentencing structure and mandatory minimum sentencing policies, this may make it difficult for judges to justify sentences below the presumptive terms.

Compared to whites, African-American inmates receive 6.6 percent longer sentences, with offense type, prior record, age, and other factors are held constant. This finding is consistent with prior research conducted with data from Pennsylvania (Steffensmeier et al. 1998) and the federal court system (Kautt 2001-2002; Mustard 2001; Everett and Wojtkiewicz 2002). Disproportionalities in sentence length are probably one among many reasons why black inmates comprise 29 percent of the state's inmate population, although they only make up 6 percent of the state's population (Hayes 2011).

In contrast, Latinos' sentences were not found to differ significantly from whites'. This finding is consistent with those of studies that detect greater sentencing disparities for blacks than for Latinos (Bushway and Piehl 2001; Demuth and Steffensmeier 2004; Chen 2008), though other researchers, using data from Pennsylvania, Washington and the federal court system, have found significant sentencing disadvantages for Latino offenders (Steffensmeier and Demuth 2000; Engen et al. 2003; Everett and Wojtkiewicz 2002). State-to-state demographic differences

¹⁰ The same trend of longer sentences for older offenders is present when five or six age group dummies are used, rather than three.

¹¹ The fact that only 3 percent of the data sample were 55 and older seems to support this idea.

may account for some of inconsistencies between the present findings and those from other states. The Latino population may be large enough in California that Latinos are no longer perceived or treated as “minorities” in the justice system. Latinos are not overrepresented in California’s prison population to the same extent as African-Americans. They make up over 36 percent of the state’s population (U.S. Census Bureau 2010), a greater share than in any other state except New Mexico (U.S. Census Bureau 2001), and about 40 percent of the male prison population (Hayes 2011). Temporal differences may also matter. The data used in earlier studies that find sentencing disparities for Latinos are mostly from the 1990’s.¹² The Latino population in the United States grew 57 percent from 1990 to 2000 and another 43 percent from 2000 to 2010, representing over half of the growth in the U.S. population (Passel et al. 2011). As the Latino population continues its rapid growth, opportunities will increase for further examination of these conjectures.

Model 3: Fully Conditional Model

Model 3 includes all of the individual-level covariates from the Model 2, and adds county-level and selected cross-level covariates corresponding to the hypotheses regarding contextual effects.¹³ The county-level covariates are dummy variables for small and large court systems and a continuous variable for the number of court cases per deputy District Attorney, to test the organizational maintenance framework; the percentage of registered Republicans to test the political responsiveness hypothesis; the proportions of the population who are African-American and Latino and the squares of these terms, to test the racial/ethnic threat theory; and

¹² Engen, et al. (2003) use data from 1989-92, Everett and Wojtkiewicz (2002) use data from 1991-93, and Steffensmeier and Demuth (2000)’s are from 1993-96.

¹³ Black and Latino are estimated with random effects. This specification is justified by the statistically significant variance ($p \leq 0.001$) associated with the slopes for Black and Latino. A model comparison test of the fixed- and random-intercepts models, using deviance statistics, confirms the choice of a model with random-effects for these variables ($\chi^2 = 39.77$, 5 degrees of freedom, $p = 0.000$).

the unemployment rate and the violent crime rate, to test for economic and crime threat effects.¹⁴ The cross-level covariates are interactions between African-American and Latino at the individual level and the racial/ethnic and crime threat variables at the county level. The results of this analysis are shown in Table 3.

The coefficients associated with the individual-level variables remain almost unchanged between Models 2 and 3. Only one changes by more than 0.01: the coefficient on Latino, which goes from -0.002 to -0.024 and becomes statistically significant ($p = 0.043$). This suggests that Latino offenders may receive slightly shorter sentences than whites when the other factors in the model are controlled. A comparison test of Models 2 and 3 using deviance statistics finds an improvement in fit associated with the addition of county-level and cross-level covariates ($\chi^2 = 79.3$, 21 d.f., $p = 0.000$). The level-2 variance component shrinks more ($\tau = 0.00482$), but remains significant ($p = 0.000$). The addition of county- and cross-level variables to the model explains 28 percent of the remaining between-unit variance from Model 2.¹⁵

***Table 3 about here ***

Contextual Factors: Effects of Administrative and Political Environments

The analysis of county-level variables yields some support for the organizational maintenance hypothesis. Prior studies have found that a lower likelihood of incarceration and shorter sentence lengths in larger courts (e.g. Ulmer and Johnson 2004; Dixon 1995). The results from Model 3 indicate that sentences tend to be about 4.9 percent longer in small court systems than in medium-sized systems ($p = 0.041$). Small court systems are in place in about three-quarters of the counties in California, but together they handle only about 19 percent of the cases

¹⁴ All of the continuous variables are entered into the model in grand-mean-centered form. Dummy variables are entered uncentered.

¹⁵ $(0.0067 - 0.00482) / 0.0067 = 0.2806$

filed in the state.¹⁶ However, sentences in large court systems are not significantly shorter than in medium-sized systems. This may be due to the correlation between the small and large court dummies as well as anomalous characteristics of the three counties (Los Angeles, Orange, and San Diego Counties) that fall into the “large” category, with 100 or more judges. When the size of the court system is controlled, court caseload (cases per deputy D.A.) is not significant.

Contrary to what the political responsiveness hypothesis predicts, the analysis did not find significantly longer sentences in counties where the population supported the Republican candidate for President. This finding confirms those of several recent studies using multilevel methods (Johnson 2005; Ulmer and Johnson 2004; Weidner et al. 2005; Schanzenbach 2005). Some prior research has found a positive relationship between political conservatism and incarceration rate, but the use of non-hierarchical methods on nested data may have led to overestimates of the effect of political environment on incarceration. Tests of alternative measures of political conservatism and anti-crime sentiment, including percentage voting for Bush over Kerry in 2004 and percentage voting for Three Strikes in 1994 or against an amendment that would amend Three Strikes in 2006, produced similarly non-significant results.

The finding that political environment has no clear effect on sentencing outcomes may comfort those who believe that the courts should remain separate from the influence of political pressures. It may indicate that District Attorneys and judges, who run in nonpartisan political races in California, are relatively insulated from party politics. The possibility remains, however, that effects of political context on sentencing exist despite the findings presented here. Some effects could be masked by the inclusion of certain control variables. For example, in the model above, Three Strikes status is controlled, and both third-striker and second-striker status

¹⁶ Calculated using 2005 data on county court caseload and personnel (http://stats.doj.ca.gov/cjsc_stats/prof05/index.htm).

have strong and significant positive effects on sentence length. Studies have discussed the substantial role of prosecutorial and judicial discretion in the application of mandatory minimum sentencing policies at the federal level and in the states (Lowenthal 1993; Bjerk 2005; Benekos and Merlo 1995). Three Strikes implementation is known to vary widely from county to county in California (Bowers 2001; Walsh 2004), and some scholars have asserted that local political climate affects how individuals are charged by prosecutors under California's Three Strikes law in different counties (Zimring et al. 2001). The uniformity in sentence lengths imposed by a statutory determinate sentencing system may be offset in part by the exercise of prosecutorial or judicial discretion in the application of Three Strikes and other mandatory minimum sentences. The extent to which political context and other aspects of the sentencing environment influence the implementation of Three Strikes in California is the subject of a separate investigation by this author (*citation omitted*).

Racial/Ethnic, Economic, and Crime Threat

The county-level and cross-level analyses provided no evidence to support either the general or race-specific racial or ethnic threat hypotheses. Sentence lengths are not significantly longer for the whole population of offenders, or for blacks or Latinos, in locations where African-American or Latino populations are larger. Unemployment rate also was not significant, contradicting the idea that punishment in the form of increased sentence length is used as a response to economic threat.

The analyses of main effects (as opposed to interaction effects) did not support the crime threat hypothesis. In fact, the coefficient representing the main effect of violent crime rate was statistically significant at $p < 0.05$, but in the opposite direction than expected. This might indicate that prosecutors, juries, and judges are more likely to respond to crime with harsh

sentences in environments where violent crime is less commonplace.¹⁷ The analysis of cross-level interactions does reveal evidence of race- and ethnicity-specific crime threat effects. An increase in the violent crime rate is associated with statistically significant increases in sentence length for both African-Americans and Latinos, indicating that efforts to “get tough on crime” may have disproportionate effects on nonwhites. However, these effects are small and the effect for African-Americans is only borderline significant: in response to a one percent increase in the violent crime rate per 1000 residents, we see a 1.1 percent increase in sentence length for blacks ($p = 0.086$), and a 1.5 percent increase for Latinos ($p = 0.019$).

Table 4 lists the hypotheses tested in this paper, the effects predicted by these hypotheses, and a summary of whether the findings confirmed the predictions.

***Table 4 about here ***

Conclusions

The findings of this paper have both substantive and methodological implications for research on the extent and sources of sentencing disparities in the United States. The numerous legally relevant factors tested in the model above explain most of the variation in sentence lengths, but some variation remains that can be attributed to other sources. This study finds that some characteristics of the organizational and social context affect sentencing outcomes, but the relationships between context and outcomes are more nuanced than what “one size fits all” theory might predict.

The multilevel analysis finds no evidence that measures of political context affect sentence lengths. While this finding may not be substantively exciting, it illustrates a methodological point. Hierarchical models allow researchers to measure the effects of case-level

¹⁷ When a rural-urban code for each county is introduced to the model, the coefficient on violent crime is still negative, but no longer statistically significant ($p = 0.105$). The “rural” variable itself is not significant.

and group-level variables simultaneously, while avoiding misspecification of standard errors due to ignored correlation between error terms for clustered cases (Raudenbush and Bryk 2002; Luke 2004). In earlier studies, the lack of correction for correlated standard errors for offenders clustered within subsets such as district court circuits may have resulted in overestimation of the significance of contextual variables such as those representing the political environment. More recent work using multilevel methods has consistently found non-significant estimates of the effect of local political conservatism on sentence lengths, departure from sentencing guidelines, and the likelihood of incarceration (see, for example, Johnson 2005, 2006).

While the data used in the analysis presented above are extensive, they originate from a single state. Questions may arise regarding the extent to which the findings here can be generalized. One could argue that research on California's criminal justice system is intrinsically valuable. California's population comprises nearly 12 percent of the U.S. population and is larger than the populations of all but 32 nations (Johnson 2003). The state's approximately 170,000 prison inmates constitute about 12 percent of state prisoners in the United States, and California's correctional institutions house more inmates than the prison systems of most countries (Walmsley 2009). In addition, the analyses here serve to extend a body of research on sentencing outcomes using multilevel methods that has thus far focused mainly the federal court system (Kautt 2002; Ulmer 2005; Johnson et al. 2008) and a handful of states with sentencing guidelines commissions, including Pennsylvania (e.g. Britt 2000; Johnson 2005, 2006; Ulmer and Johnson 2004), Minnesota (e.g. Dixon 1995; Stolzenberg and D'Alessio 1994; Miethe 1987), and Washington (e.g. Engen and Gainey 2000; Engen et al. 2003). Many of the findings support conclusions from earlier studies using similar methods on data from entirely different sources. Taken together, this study and others preceding it provide strong and encouraging evidence that

legally relevant variables have much greater influence on sentencing decisions than extralegal factors. They also confirm that geographic disparities exist that cannot be fully explained by a broad range of legally relevant factors. The observation that sentence lengths for some or all defendants may be determined in part by county demographics, administrative characteristics, or other contextual factors that are well beyond the control of defendants calls into question the presumption of equal justice under the law. Offenders with similar criminal records, who commit comparable offenses, can – and do – receive significantly different prison sentences depending on where which their court cases are adjudicated.

This study and others provide evidence in support of the organizational maintenance framework. Findings regarding racial and ethnic threat have been mixed, and there has been less support in the recent literature for the notion that political motivations contribute significantly to inter-jurisdictional disparities in sentence lengths.

The absence of observed effects of political, economic, and demographic climate on sentence lengths may be attributable in large part to the rigidity of California’s statutory sentencing structure and the sentencing guidelines structures in other states where effects have not been found. Scholars have written about the “hydraulic displacement of discretion” in the criminal justice system: when discretion is severely curtailed in one part of the system, it tends to resurface elsewhere (Miethe 1987; McCoy 1984; Woolredge and Griffin 2005). This may be the case in California. Due to data limitations, this study has focused on sentence length, but prior research has determined that much unwarranted sentencing disparity is found at earlier stages of the courtroom process, including the filing and dropping of charges (Shermer and Johnson 2010) and the decision about whether or not to incarcerate (Ulmer and Johnson 2004; Johnson 2006; Pardoe and Weidner 2006; Chiricos and Crawford 1995). If detailed courtroom data become

available in California, future research should investigate the individual- and jurisdictional-level factors that influence these processes as well.

Especially troubling is the finding that extralegal individual characteristics, such as race and age, influence sentencing leniency or severity beyond the extent to which they are correlated with legally relevant attributes of offenders and their crimes. In particular, African-American offenders appear to be significantly disadvantaged. It is uncertain whether this is due to overt or unconscious discrimination, institutional bias, defendants' relative unwillingness to negotiate with prosecutors, or other reasons. Although the presence of African-American sentencing disadvantage is well-documented, little is known about the sources of racial disparity in criminal charging and sentencing, and more research is sorely needed in this area.

A somewhat puzzling finding is that Latinos do not appear to experience the same sentencing disadvantages that African-Americans do, and that they may even receive sentences that are shorter than whites' when several factors are controlled. The reasons behind the apparent differences in sentence lengths between black and Latino felons in California remain uncertain and deserve further exploration through quantitative or qualitative research. The disparities may reflect differences in criminal justice decisionmakers' perceptions and treatment of blacks, whites, and Latinos, or distinctions between the groups not captured in the data used here, such as differences in plea bargaining patterns.

Policy Implications

Some proponents of criminal justice reform, including California Governor Arnold Schwarzenegger (2009) and the Little Hoover Commission (2007), an independent and bipartisan state oversight agency, have called for the creation of a sentencing commission consisting of experts, policy makers, and elected officials to review sentencing data, proposals,

policies, and outcomes. Others suggest that more structured presumptive sentencing guidelines may increase uniformity in sentencing (Hayes 2006), though evidence from Pennsylvania and the federal courts indicates that such a system may be insufficient to eliminate geographic disparity in sentencing (Johnson 2006; Johnson et al. 2008). Critical legal scholars have called for greater transparency in prosecutorial and judicial decision-making and the allocation of more resources and energy to careful study and systematic analysis of criminal justice processes and outcomes to reduce sentencing disparities, especially those associated with race (Bandes 2006; Davis 2007). Increased availability of detailed criminal justice data from the courts, including information about prosecutors' decisions to file or drop charges and to negotiate plea deals, could shed light on sources of interjurisdictional variation in sentencing outcomes as well as on racial and ethnic disparities. The need for proposals like these to be considered seriously is confirmed by the findings of this study.

Table 1: Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
Individual-level Variables (N = 93033)				
Sentence Length in Months (truncated past 600 months)	8	600	85.36	104.09
Offense Categories				
1st degree murder	0	1	0.02	0.13
2nd degree murder	0	1	0.02	0.15
Manslaughter	0	1	0.02	0.12
Vehicular Manslaughter	0	1	0.00	0.07
Robbery	0	1	0.11	0.32
Assault with a deadly weapon	0	1	0.08	0.28
Rape	0	1	0.09	0.29
Lewd act with a child	0	1	0.01	0.10
Kidnapping	0	1	0.05	0.22
(Reference = other assault)	0	1	0.01	0.09
Burglary - 1st degree	0	1	0.04	0.20
Burglary - 2nd degree	0	1	0.05	0.22
Grand theft	0	1	0.02	0.15
Petty theft with a prior	0	1	0.04	0.19
Receiving stolen property	0	1	0.03	0.18
Vehicle theft	0	1	0.06	0.23
Forgery or fraud	0	1	0.02	0.14
Possession of controlled substances	0	1	0.12	0.32
Possession of controlled substances for sale	0	1	0.10	0.30
Sale of controlled substances	0	1	0.04	0.20
Manufacture of controlled substances	0	1	0.01	0.10
Possession of marijuana for sale	0	1	0.01	0.08
Marijuana sales	0	1	0.00	0.06
Number of serious or violent prior convictions	0	94	0.50	1.27
Second Striker	0	1	0.24	0.43
Third Striker	0	1	0.02	0.12
New prison admission (non-parolee)	0	1	0.60	0.49
Current offense charged as a parole violation with new prison term	0	1	0.27	0.44
Parolee - returned to custody	0	1	0.13	0.33

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	Minimum	Maximum	Mean	Std. Deviation
Black/African-American	0	1	0.28	0.45
Hispanic/Latino	0	1	0.43	0.49
White	0	1	0.29	0.45
Age 14-24	0	1	0.25	0.43
Age 25-54	0	1	0.72	0.45
Age 55 and up	0	1	0.03	0.17
Year of incarceration	2002	2006	2004.93	1.23
2002	0	1	0.07	0.25
2003	0	1	0.09	0.29
2004	0	1	0.27	0.45
2005	0	1	0.27	0.45
2006	0	1	0.44	0.50
County-Level Variables (N = 58)				
Percentage of Republican registered voters	11.54	51.80	38.91	9.42
Caseload per Deputy D.A.	2.00	186.85	76.63	42.07
Small Court System (1-20 judges)	0	1	0.74	0.44
Medium-sized system (21-99 judges)	0	1	0.21	0.41
Large Court System (100 or more judges)	0	1	0.05	0.22
Unemployment Rate	4.60	15.00	7.64	2.39
% African-American	0.16	14.93	3.40	3.56
% Latino	3.97	72.22	22.94	15.25
% White	48.71	94.18	72.74	13.74
Violent Crime Rate	182.40	912.90	429.49	174.12

Table 2: Model with Individual-level Variables Only: Dependent variable = ln (sentence in months)

	Coefficient	Standard Error	P-value	e^β
Intercept	417.033	3.392	0.000	1.30E+181
Legally Relevant Variables				
Offense Categories				
1st degree murder	1.914	0.015	0.000	6.778
2nd degree murder	1.323	0.013	0.000	3.754
Manslaughter	0.906	0.015	0.000	2.475
Vehicular Manslaughter	0.551	0.026	0.000	1.736
Robbery	0.386	0.007	0.000	1.472
Assault with a deadly weapon	0.282	0.008	0.000	1.326
Rape	0.847	0.018	0.000	2.333
Lewd act with a child	0.543	0.010	0.000	1.722
Kidnapping	0.801	0.021	0.000	2.229
(Reference = other assault)				
Burglary - 1st degree	0.197	0.010	0.000	1.217
Burglary - 2nd degree	-0.345	0.009	0.000	0.708
Grand theft	-0.346	0.013	0.000	0.708
Petty theft with a prior	-0.420	0.010	0.000	0.657
Receiving stolen property	-0.384	0.011	0.000	0.681
Vehicle theft	-0.307	0.009	0.000	0.735
Forgery or fraud	-0.284	0.014	0.000	0.753
Possession of controlled substances	-0.453	0.007	0.000	0.635
Possession of controlled substances for sale	0.008	0.007	0.256	1.008
Sale of controlled substances	0.179	0.010	0.000	1.196
Manufacture of controlled substances	0.388	0.019	0.000	1.475
Possession of marijuana for sale	-0.510	0.022	0.000	0.601
Marijuana sales	-0.188	0.029	0.000	0.829
Number of serious or violent prior convictions	0.035	0.002	0.000	1.036
Second Striker	0.318	0.005	0.000	1.374
Third Striker	1.517	0.015	0.000	4.558
(Reference = no "strikes")				
Current offense charged as a parole violation				
with new prison term	-0.025	0.004	0.000	0.976
Parolee - returned to custody	-0.179	0.006	0.000	0.836
(Reference = non-parolee)				

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	Coefficient	Standard Error	P-value	eβ
Extralegal variables				
Black	0.064	0.005	0.000	1.066
Latino	-0.002	0.005	0.660	0.998
Age 14-24 (Reference = 25-54)	-0.070	0.004	0.000	0.933
Age 55 and up	0.055	0.011	0.000	1.056
Year admitted	-0.206	0.002	0.000	0.814

Table 3: Model with Individual-level, County-level, and Cross-level Variables: Dependent variable = ln (sentence in months)

	Coefficient	Standard Error	P-value	eβ
Intercept	416.700	3.391	0.000	9.34E+180
County-level Variables				
Political context				
Percentage of Republican registered voters	0.001	0.001	0.361	1.001
Administrative Context				
Caseload per Deputy D.A. (x10)	-0.002	0.000	0.305	0.998
Small Court System (1-20 judges)	0.049	0.023	0.041	1.051
(Reference = Medium-sized system (21-99 judges))				
Large Court System (100 or more judges)	-0.005	0.042	0.914	0.995
Economic Threat				
Unemployment Rate	-0.002	0.005	0.738	0.998
Racial/Ethnic Threat				
% African-American	-0.005	0.005	0.302	0.995
(% African-American) ²	0.002	0.001	0.035	1.002
% Latino	0.001	0.001	0.496	1.001
(% Latino) ²	0.000	0.000	0.535	1.000
Crime Threat				
Violent Crime Rate (crimes / 1000 residents)	-0.164	0.000	0.043	0.849
Individual-level Variables				
Legally Relevant Variables				
Offense Categories				
1st degree murder	1.913	0.015	0.000	6.771
2nd degree murder	1.323	0.013	0.000	3.754
Manslaughter	0.907	0.015	0.000	2.476
Vehicular Manslaughter	0.553	0.026	0.000	1.738
Robbery	0.387	0.007	0.000	1.472
Assault with a deadly weapon	0.282	0.008	0.000	1.326
Rape	0.849	0.018	0.000	2.336
Lewd act with a child	0.544	0.010	0.000	1.723
Kidnapping	0.801	0.021	0.000	2.228
(Reference = other assault)				

(continued on next page)

	Coefficient	Standard Error	P-value	eß
Burglary - 1st degree	0.197	0.010	0.000	1.217
Burglary - 2nd degree	-0.345	0.009	0.000	0.708
Grand theft	-0.346	0.013	0.000	0.708
Petty theft with a prior	-0.420	0.010	0.000	0.657
Receiving stolen property	-0.383	0.011	0.000	0.682
Vehicle theft	-0.307	0.009	0.000	0.736
Forgery or fraud	-0.284	0.014	0.000	0.753
Possession of controlled substances	-0.453	0.007	0.000	0.636
Possession of controlled substances for sale	0.009	0.007	0.243	1.009
Sale of controlled substances	0.178	0.010	0.000	1.195
Manufacture of controlled substances	0.391	0.019	0.000	1.478
Possession of marijuana for sale	-0.511	0.022	0.000	0.600
Marijuana sales	-0.189	0.029	0.000	0.827
Number of serious or violent prior convictions	0.035	0.002	0.000	1.036
Second Striker	0.318	0.005	0.000	1.374
Third Striker	1.516	0.015	0.000	4.555
(Reference = no "strikes")				
Current offense charged as a parole violation with new prison term	-0.024	0.004	0.000	0.976
Parolee - returned to custody	-0.179	0.006	0.000	0.836
(Reference = non-parolee)				
Extralegal variables				
Black	0.054	0.013	0.000	1.055
Latino	-0.024	0.012	0.043	0.976
Age 14-24	-0.070	0.004	0.000	0.932
(Reference = 25-54)				
Age 55 and up	0.055	0.011	0.000	1.056
Year admitted	-0.206	0.002	0.000	0.814
Cross-level Interactions				
Black x % African-American	0.001	0.004	0.710	1.001
Black x (% African-American) ²	-0.001	0.001	0.248	0.999
Black x Violent Crime Rate (per 1000 residents)	0.011	0.000	0.086	1.011
Latino x % Latino	0.000	0.001	0.622	1.000
Latino x (% Latino) ²	0.000	0.000	0.427	1.000
Latino x Violent Crime Rate (per 1000 residents)	0.015	0.000	0.019	1.015

Table 4: Summary of Findings

Variable and Corresponding Hypothesis	Predicted effect	Confirmed?
“ Legally relevant ” defendant characteristics will play a substantial role in sentence outcomes (substantive rationality)	(+) effects for violent offenses, number of priors, offense severity, 2 nd or 3 rd strikers; (-) effects for property offenses, parolee status	Yes, all legally relevant variables have strong significant effects as expected
African-American offenders will receive longer sentences than whites (substantive rationality)	(+) effect for Black	Yes
Latino offenders will receive longer sentences than whites (substantive rationality)	(+) effect for Latino	No
Sentences will be longer in counties with a higher percentage of Republican voters (political responsiveness)	(+) effect for % Republican	No
Longer sentences will be administered in smaller court systems (organizational maintenance)	(+) effect for small court system	Yes
Shorter sentences will be administered in larger court systems (organizational maintenance)	(-) effect for large court system	No
Courts with higher caseloads will administer shorter sentences (organizational maintenance)	(-) effect for court cases per D.A.	No
In areas where the black population is larger, sentences will be longer (racial threat, general); effect may diminish where black share of the population is high (racial threat)	(+) effect for % Black in county; (-) effect for (% Black) ²	No
In areas where black population is larger, black defendants will receive longer sentences, and the effect will be curvilinear (racial threat, specific)	(+) effect for (Black * % Black; (-) coefficient on [Black * (% Black) ²]	No

Variable and Corresponding Hypothesis	Predicted effect	Confirmed?
In areas where the Latino population is larger, sentences will be longer (ethnic threat, general); effect will diminish where Latino share of the population is high.	(+) effect for % Latino in county; (-) effect for $(\% \text{ Latino})^2$	No
In areas where the Latino population is larger, Latinos will receive longer sentences, and the effect will be curvilinear in form (ethnic threat, specific)	(+) effect for Latino * % Latino; (-) coefficient on [Latino * $(\% \text{ Latino})^2$]	No
Economic threat: sentences will be longer where the unemployment rate is higher.	(+) effect for county unemployment rate	No
Crime threat: sentences will be longer where the crime rate is higher.	(+) effect for county crime rate	No effect for whites; borderline significant (+) effect for blacks; significant (+) effect for Latinos

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