Online Appendix

I. Tables

Table A1a. Summary Statistics for USSC, FL, NIBRS, and DEA Records

	Pre-2010	Post-2010	Observations
Panel A. Cocaine Felony Convictions in FL			
200-400g	0.00475	0.00432	214,573
	(0.0687)	(0.0656)	
28-200g	0.0405	0.0473	214,573
	0.197	(0.212)	
Missing drug weight	0.945	0.936	214,573
	(0.228)	(0.245)	
Black or Hispanic	0.771	0.789	214,573
	(0.420)	(0.408)	
Panel B. NIBRS Drug Seizures, Balanced Panel			
Weight (g)	10.31	7.85	191,667
	(45.61)	(45.75)	
280-290g	0.000361	0.000152	191,667
	(0.0190)	(0.0123)	
Black	0.737	0.745	191,667
	(0.440)	(0.436)	
Male	0.837	0.835	191,667
	(0.370)	(0.371)	
Panel C. DEA Drug Seizures			
Weight (g)	78.28	67.28	100,306
	(188.83)	(176.54)	
280-290g	0.00102	0.000428	100,306
	(0.0319)	(0.0207)	
Seized (vs. Purchased)	0.529	0.542	100,306
	(0.499)	(0.498)	
Price per gram (median)	47.36	56.18	37,280

Notes: The table above describes data from the FL inmate database, the NIBRS drug seizure records, and the DEA drug exhibit data pre- and post-2010. Means are reported with standard deviations in parentheses. Weight is the weight of the drugs in grams. 280-290g is a dummy variable equal to one when the weight is from 280-290g, zero when it is from 0-280g and 290-1000g, and missing when it is missing. 200-400g and 28-200g are defined similarly. "Missing drug weight" is equal to one when the drug weight is missing. "Seized (vs. Purchased)" is equal to one if the DEA obtained the drug exhibit from a seizure versus an undercover purchase. The median price per gram is reported after removing outliers above the 95th and below the 5th percentiles. For FL, offense descriptions include the name of the drug, and occasionally, a broad range for the amount of drugs. Florida does not separately categorize crack versus non-crack cocaine offenses. NIBRS is comprised of FBI-collected incident reports from local law enforcement agencies. The property segment includes information about drug seizures involved in arrests. STRIDE contains information about drug evidence from the DEA and other agencies that was submitted to DEA laboratories for analysis. The statistics for NIBRS and DEA are derived from the cleaned data in cases with drug weights above 1000g are removed.

Supplementary USSC Notes: USSC data were obtained from the ICPSR "Monitoring of Federal Criminal Sentences" series. I make several data restrictions: (1) drop any case that is a duplicate on USSC ID number and fiscal year (n=1); (2) remove offenders with a race coded as "other" (n=882); (4) remove 205 cases that are based on Guidelines amendment years before 1999; (5) remove any case that has a non-zero value for the variable DRUGPROB (1.5% of cases). USSC explains that "analyses involving drug weight and base offense level may choose to use this field to remove problematic cases."; (6) remove cases with recorded drug weight above 1000g (10% of cases with a weight); (7) remove cases where drug weight is coded as a range (19% of cases) or where drug weight is missing (2.6% of cases); (8) remove cases that have missing values for any of the key variables used in the main analyses (about 2% of cases); (9) remove extreme outliers in sentence length by calculating the difference between the Guidelines recommendation and the actual sentence and removing cases where this difference is in the top 0.5% of observations; (10) remove cases where the judge does not accept the facts of the case (6% of cases); (11) remove cases where the SOURCES variable does not equal one (4% of cases). USSC notes, "Including only [SOURCES] = 1 cases in the analysis will minimize, but not eliminate, data inconsistencies." The racial disparity in bunching is robust to all of these restrictions.

Table A1b. Summary Statistics for EOUSA Prosecutor Case Files

	Pre-2010	Post-2010	Observations
Weight (g)	72.500	97.966	19,363
	(135.219)	(162.538)	
280-290g	0.004	0.082	19,363
	(0.062)	(0.274)	
280-290g, Missing = 0	0.002	0.026	49,342
	(0.040)	(0.158)	
50-60g	0.210	0.082	19,363
	(0.408)	(0.274)	
50-60g, Missing = 0	0.086	0.026	49,342
	(0.280)	(0.158)	
Missing drug weight	0.593	0.686	49,342
	(0.491)	(0.464)	
Only Federal Law Enforcement Involved	0.642	0.647	48,501
	(0.479)	(0.478)	
Any Federal Law Enforcement Involved	0.737	0.713	48,501
	(0.440)	(0.452)	
Lead Charge = Conspiracy	0.212	0.217	46,335
	(0.409)	(0.412)	

Notes: The table above describes defendants found in the EOUSA prosecutor case management data pre- and post-2010. The mean value of each variable is reported with standard deviations in parentheses. Observation counts are displayed separately for each variable since some fields in this data are missing much more often than others. The statistics above are derived from the cleaned data in which the following cases are removed: cases with drug weights above 1000g. Weight is the weight of the drugs in grams recorded in the case management system. 280-290g is a dummy variable equal to one when the weight is from 280-290g, zero when it is from 0-280g and 290-1000g, and missing when it is missing. "280-290g, Missing=0" is a dummy variable equal to "280-290g" but coded equal to zero when the weight field is missing. The 50-60g variables follow the same logic. "Missing drug weight" is equal to one when the drug weight is missing. "Only Federal Law Enforcement" is equal to one when the agency recorded as sending the case is strictly federal (i.e. DEA, FBI, or ATF) and equal to zero otherwise. "Any Federal" is equal to one if the agency sending the case has any federal involvement (i.e. "Joint DEA and state/local task force") and equal to zero otherwise. "Lead Charge = Conspiracy" is equal to one when the lead charge for the case is a drug conspiracy charge. The identical statistics in rows 3-10 of column 2 are not an error–in the EOUSA data, the number of 50-60g cases post-2010 is the exact same as the number of 280-290g cases post-2010.

Supplementary EOUSA Notes: These data contain information on cases handled by the EOUSA from the EOUSA's internal case management system: Legal Information Office Network System (LIONS). The drug quantity field comes from the "controlled substances" screen of the LIONS software. According to the LIONS user manual, the controlled substances data "tracks information on controlled substances; includes type and quantity of all substances in a case." Based on comparisons to the USSC data at the district-month level, there are no apparent issues with this field over this time period. Based on the LIONS User Manual, this information is entered in a case when the LIONS record is first created, which will likely occur shortly after case receipt. The LIONS system does not prompt users to update the information after the initial entry. The other main fields I use are: staff ID, initials, date received, sentence date, and judge ID. I track attorneys across districts by using the initials field and validating it via the staff ID field, which is constant only within districts. For the main analyses, I limit to cases with weights below 1000g. This removes a large portion of the sample for which drug weight is missing. Although some fields are required (e.g. case ID, lead attorney ID, instrument type), the LIONS case management software does not require the user to enter information in all fields. The drug quantity field on the controlled substances screen is not required. Approximately 60% of crack-cocaine cases are missing quantity information. This varies across districts, with some districts missing quantity in as little as 7% of cases and some missing it in as many as 99.8% of cases. Importantly, all of the main results from the EOUSA data are robust to the inclusion of district fixed effects. The fraction missing does increase after 2010 in the EOUSA data. Specifically, it increases from 60.7% in 2010 to 66.2% in 2011. Because of this sharp increase in missing values that coincides with timing of the FSA, I explore robustness to various ways of dealing with missing values. In the main text and appendix, I deal with missing values by re-coding the 280-290g indicator to zero when the quantity field is missing, this produces a time series pattern of bunching that is similar in dynamics and magnitudes to the pattern of bunching found in the USSC data. Alternatively, results are robust to excluding districts that have missing values in more than 75% of cases and to excluding districts that have missing values in more than 50% of cases.

Table A2. Exploring Bunching in Other Major Drug Types

Panel A. Racial differences in bunching in…	**Powder Cocaine**		**Heroin**		**Marijuana**		**Methamphetamine**		**Pooled**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	500-600g	5000-6000g	100-110g	1000-1100g	100kg-110kg	1000kg-1100kg	50-60g	500-600g	Lower	Upper
Black or Hispanic	0.00897**	0.00971***	0.00300	0.0135***	-0.00107	0.00183**	0.0330***	0.00769*	0.00446***	0.00602***
	(0.00420)	(0.00273)	(0.00684)	(0.00422)	(0.00146)	(0.000825)	(0.00937)	(0.00422)	(0.00146)	(0.00117)
Constant	0.0636***	0.0305***	0.0624***	0.0392***	0.0182***	-2.68e-05	0.138***	0.0631***	0.0362***	0.0200***
	(0.00738)	(0.00450)	(0.0114)	(0.00684)	(0.00229)	(0.00108)	(0.0169)	(0.00780)	(0.00234)	(0.00186)
Observations	27,926	51,658	9,309	18,453	67,792	83,774	7,550	17,282	128,555	171,166

Panel B. Racial Differences in Self-Reported Involvement								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Use Cocaine	Use + Sold Drugs	Use Heroin	Use + Sold Drugs	Use Marijuana	Use + Sold Drugs	Use Meth	Use + Sold Drugs
Black or Hispanic	-0.0576***	-0.00282***	-0.00290***	-0.000981***	-0.115***	-0.000154	-0.0344***	-0.00202***
	(0.00153)	(0.000285)	(0.000585)	(0.000150)	(0.00215)	(0.000364)	(0.000782)	(0.000180)
	0.166***	0.00850***	0.0176***	0.00215***	0.462***	0.0121***	0.0549***	0.00360***
	(0.000899)	(0.000162)	(0.000303)	(8.54e-05)	(0.00121)	(0.000188)	(0.000542)	(0.000117)
Observations	763,466	762,181	763,565	762,275	763,297	762,012	763,622	762,322

Panel C. Racial Differences in Drug Seizures				
	(1)	(2)	(3)	(4)
	Cocaine Seized	Heroin Seized	Marijuana Seized	Meth Seized
Black	-9.692***	0.127	-354.8***	-1.809*
	(2.335)	(0.892)	(21.54)	(1.077)
	38.23***	15.56***	-44.28	21.32***
	(4.726)	(1.309)	(47.01)	(0.824)
Observations	140,370	74,861	1,791,564	162,287

Notes: Robust standard errors in parentheses. When possible, all specifications include fixed effects for federal district as well as controls for age and gender of the offender or respondent. For Panel A, the sample for each column is restricted to drug amounts between 0 and two times the threshold of interest (e.g., Panel A, column 1 is restricted to weights from 0-1000g; Panel A, column 2 is restricted to weights from 0-10000g). Following the main analysis, the range examined for bunching is a 10g range if the threshold is < 500g, a 100g range if the threshold is 500-1000g, a 1000g range if the threshold is above 1000g but below 10000g, and is 10% of the threshold for all amounts above 10000g. For Panel B, sample weights are applied. For Panel C, the sample for each column is restricted to drug amounts between 0 and two times the highest threshold of interest (e.g., Panel C, column 1 is restricted to weights from 0-10000g; Panel C, column 2 is restricted to weights from 0-2000g). These results differ from findings of a prior BJS working paper (BJS 2015) for two main reasons. First, the specifications in Panel A control for district fixed effects, this reduces the problems posed by round number bunching to some extent, since round number bunching varies across districts and defendant race varies across districts. Second, the specifications in Panel A are estimated on a wider range of cases, whereas the BJS working paper only examines the distribution narrowly around the threshold (e.g., Panel A, column 1 is estimated on any case from 0-1000g. The analogous specification in the BJS working paper restricts to 400-600g. This restriction will understate the level of bunching if cases below 400g are also "at risk" of bunching at 500g).

Difficulties in interpreting bunching in other drug types: The main analysis in the paper focuses on bunching in the distribution of crack-cocaine amounts. This is because crack-cocaine is the only drug for which the mandatory minimum threshold has changed since the introduction of the sentencing guidelines. The change in the threshold has two crucial benefits. First, the threshold was changed to 280g, which is a point with zero bunching before the change. This is important because all other thresholds are set at 50g, 500g, 1000g, etc., which are points that exhibit considerable round number bunching. In other words, there is bunching at these amounts even for drugs that do not have these amounts as relevant thresholds. The presence of round number bunching introduces noise that makes it difficult to determine if the observed bunching is due to prosecutor discretion re: sentence length concerns or due to the round number bunching phenomena. Second, a critical concern with interpreting a racial disparity in bunching at a threshold is that we do not know the underlying distribution of drug involvement for each drug type by race. In other words, suppose we don't observe a disparity in bunching at a threshold for marijuana. It's not clear if this is because marijuana involvement is higher for white offenders than for black and Hispanic offenders or if there is, in fact, no racial disparity conditional on drug involvement. The change in the threshold for crack-cocaine allows me to use the distribution of crack-cocaine amounts before the change to distinguish between those two possibilities, as outlined in the paper. This is not possible for the other drug types. Using data on self-reported drug use (Panel B) and drug seizures (Panel C), I show that this is a serious concern. White respondents/offenders do appear to be more involved with these other major drug types and thus the observed raw bunching likely

Table A3. Result Robust to Other Drug Weight Sample Restrictions and Other Bunching Classifications

	Pr(280-290g Crack-Cocaine)						Pr(280-300g)	Pr(280-320g)	Pr(280-380g)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
After 2010 x White	0.0127**	0.0123**	0.0123**	0.0605***	0.0597***	0.0288**	0.0156**	0.0144**	0.0103
	(0.0053)	(0.0051)	(0.0051)	(0.0092)	(0.0089)	(0.0124)	(0.0065)	(0.0070)	(0.0083)
After 2010 x Black or Hispanic	0.0343***	0.0328***	0.0327***	0.0832***	0.0820***	0.0715***	0.0346***	0.0352***	0.0376***
	(0.0021)	(0.0020)	(0.0020)	(0.0028)	(0.0027)	(0.0043)	(0.0022)	(0.0025)	(0.0029)
Constant	0.0018*	0.0017*	0.0016*	0.0026***	0.0032***	0.0023	0.0065***	0.0114***	0.0246***
	(0.0010)	(0.0010)	(0.0010)	(0.0010)	(0.0011)	(0.0027)	(0.0014)	(0.0019)	(0.0027)
P-value: W = BH	0.0001	0.0002	0.0002	0.0176	0.0166	0.0011	0.0053	0.0053	0.0020
Sample Restriction	0-2500g	0-25000g	No Restriction	0-1000g	0-1000g	50-1000g	0-1000g	0-1000g	0-1000g
Includes Weights Coded as a Range	No	No	No	Yes	Yes	No	No	No	No
Includes Weights Imputed from BOL	No	No	No	No	Yes	No	No	No	No
Observations	53,113	55,346	55,819	61,488	63,078	23,696	50,273	50,273	50,273

Notes: Robust standard errors in parentheses. The estimates in this table are based on the USSC data. The row "P-value: W = BH" reports the p-value from a test of the null hypothesis that the coefficient on "After 2010 x White" is equal to the coefficient on "After 2010 x Black or Hispanic." Columns 1-3 include outlier weights to varying extents. Column 4 reports results when the sample includes quantities coded as a range (in this analysis, the lower bound of the range is used). Column 5 reports results when the sample includes quantities coded as a range (using the lower bound of the range) and cases in which the weight is missing but a lower bound on the weight can be inferred from the base offense level (BOL). Column 6 excludes drug weights below 50g (i.e. excluding weights close to the 5-year mandatory minimum threshold pre- and post-2010). Columns 7-9 correspond to different definitions of what it means for a case to be "bunched" above the mandatory minimum threshold. For the main results, I define a result as "bunched" if it is in the narrow range of 280-290g. In columns 7-9, I use alternative ranges: 280-300g, 280-320g, and 280-380g. *** p<0.01, ** p<0.05, * p<0.1

Table A4. Result Robust to Controls, Alternative Std. Errors, and Alternative Models

Panel A. Result Robust to Controls and Alternative Std. Errors.

	Pr(280-290g Crack-Cocaine)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
After 2010	0.0332***		0.0336***		0.0336***		0.0314***		0.0310***	
	(0.0067)		(0.0068)		(0.0066)		(0.0059)		(0.0058)	
After 2010 x White		0.0135**		0.0142**		0.0150**		0.0128**		0.0148**
		(0.0059)		(0.0060)		(0.0064)		(0.0062)		(0.0067)
After 2010 x Black or Hispanic		0.0344***		0.0349***		0.0347***		0.0325***		0.0319***
		(0.0070)		(0.0071)		(0.0069)		(0.0062)		(0.0062)
Constant	0.0049***	0.0031***	0.0041	0.0045	0.0057*	0.0070**	0.0045	0.0058	0.0050	0.0059*
	(0.0005)	(0.0011)	(0.0027)	(0.0028)	(0.0030)	(0.0030)	(0.0035)	(0.0035)	(0.0030)	(0.0031)
P-value: W = BH	-	0.0170	-	0.0179	-	0.0286	-	0.0289	-	0.0740
Offender Controls	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Year Trend	No	No	No	No	No	No	Yes	Yes	Yes	Yes
State-specific Trends	No	No	No	No	No	No	No	No	Yes	Yes
Observations	50,273	50,273	50,273	50,273	50,273	50,273	50,273	50,273	50,273	50,273

Panel B. Result Robust to Probit, Logit, and Poisson Models.

	Probit: 280-290g		280-380g	**Logit:** 280-290g		280-380g	**Poisson:** 280-290g		280-380g	**OLS:** 280-290g		280-380g
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
After 2010 x W	0.6089***	0.6160***	0.1542	1.6969***	1.5489***	0.3618	1.2342***	1.2964***	0.1256	0.0135**	0.0282**	0.0103
	(0.1685)	(0.1882)	(0.1124)	(0.4618)	(0.4648)	(0.2595)	(0.4096)	(0.2793)	(0.5946)	(0.0056)	(0.0121)	(0.0083)
After 2010 x BH	0.8164***	0.8993***	0.3769***	2.0944***	2.1007***	0.8257***	2.1256***	2.1158***	0.8409	0.0344***	0.0681***	0.0376***
	(0.0352)	(0.0391)	(0.0243)	(0.0915)	(0.0924)	(0.0519)	(0.3661)	(0.2741)	(0.6294)	(0.0021)	(0.0042)	(0.0029)
Constant	-2.7399***	-2.4133***	-1.9671***	-5.7820***	-4.8323***	-3.6807***	3.4876***	2.5893***	3.5564***	0.0031***	0.0079***	0.0246***
	(0.1038)	(0.1148)	(0.0471)	(0.3167)	(0.3175)	(0.1132)	(0.3579)	(0.2249)	(0.3580)	(0.0010)	(0.0025)	(0.0027)
P-value: W = BH	0.2281	0.1405	0.0528	0.3986	0.2443	0.0796	0.0321	0.0035	0.3579	0.0004	0.0018	0.0020
Sample	0-1000g	50-1000g	0-1000g	0-1000g	50-1000g	0-1000g	0-1000g	50-1000g	0-1000g	0-1000g	50-1000g	0-1000g
Observations	50,273	24,306	50,273	50,273	24,306	50,273	400	380	400	50,273	24,306	50,273

Notes: The estimates in this table are based on the USSC data. The row "P-value: W = BH" reports the p-value from a test of the null hypothesis that the coefficient on "After 2010 x White" is equal to the coefficient on "After 2010 x Black or Hispanic." **Panel A:** Standard errors clustered at the state-level in parentheses. The row "Offender Controls" indicates if the following offender-level controls are included: criminal history points, age, sex, number of dependents, citizenship, number of current offense counts, whether a weapon was involved, and education. The rows "State Fixed Effects" and "Year Trend" indicate if the specification includes state fixed effects or a linear trend in year as controls. The row "State-specific Trends" indicates if the specification includes state-specific linear trends. In all cases, there is a sharp increase in the fraction of cases with 280-290g after 2010 and a racial disparity in that increase. **Panel B:** Robust standard errors in parentheses. Columns 1-3 estimate probit models, columns 4-6 estimate logit models, columns 7-9 estimate Poisson models (on binned data), and columns 10-12 estimate linear probability models. Columns 1, 4, 7, and 10 estimate the change in bunching at 280-290g after 2010 for all cases from 0-1000g. Columns 2, 5, 8, and 11 limit the sample to cases from 50-1000g (following column 6 of Table A3). Columns 3, 6, 9, and 12 extend the "bunching" definition to 280-380g (following column 9 of Table A3). Although absolute increases in the probability of bunching are of interest because they correspond to the observed disparity in bunching, the estimates in columns 1-6 document that even relative to the pre-2010 disparity in charging at 280g, black and Hispanic offenders are more likely to be bunched than white offenders after 2010. These estimates are not statistically significant in columns 1-2 or 4-5 because the total number of white offenders in the 280-290g range is small and a small absolute increase can register as a large relative increase. Extending the range from 280-380g, as in columns 3 and 6, mitigates this small-N problem. *** p<0.01, ** p<0.05, * p<0.1

Table A5. Racial Disparity in Bunching at 280-290g without Departures Applied

	Pr(280-290g)		
	(1)	(2)	(3)
After 2010 x White	0.00367	0.00888*	0.00214
	(0.00326)	(0.00455)	(0.00268)
After 2010 x Black or Hispanic	0.0186***	0.0305***	0.0165***
	(0.00161)	(0.00202)	(0.00152)
Constant	0.00184**	0.00215***	0.00154**
	(0.000752)	(0.000812)	(0.000687)
P-value: W = BH	0.0000	0.0000	0.0000
Pr(280-290g) Recoded = 0 if...	-	-	-
...safety valve departure applied	No	Yes	Yes
...substantial assistance departure applied	Yes	No	Yes
Observations	50,273	50,273	50,273

Notes: Robust standard errors in parentheses. The estimates in this table are based on the USSC data. Safety valve departures are uncommon for crack-cocaine offenses; they are received by 12% of all offenders and 9% after 2010. Substantial assistance departures are more common; they are received by 26% of all offenders and 22% after 2010. For cases in 280-290g range, 11% receive a safety valve departure after 2010 and 45% receive a substantial assistance departure. Slightly less than half of defendants in the 280-290g range receive at least one of the two departures. Column 1 recodes the dependent variable as zero if a substantial assistance departure is applied. Column 2 recodes the dependent variable as zero if a safety valve departure is applied. Column 3 recodes the dependent variable as zero if either departure is applied. These results indicate that there is a racial disparity in the probability a case is bunched at 280g **and** does not have a departure applied. Note, these departures do reduce sentence length when applied, but to be eligible for these departures, defendants must cooperate with the government. This cooperation is also costly for defendants: it increases pressure to plea, it puts defendants and their families at risk of retaliation, and it potentially increases sentencing for other defendants. The extent to which the mandatory minimum fails to increase sentencing due to departures is directly related to the extent to which it increases these other costs. In *Hard Bargains*, Mona Lynch writes, "This practice can put defendants in a horrible dilemma, since providing assistance can be a deadly endeavor. [...] The problem for the defender's client was that he was from a neighborhood 'where if he cooperates, he's dead . . . or, even worse, his family's dead.'" For these reasons, I do not make a distinction between cases with or without a departure in the main analysis. *** p<0.01, ** p<0.05, * p<0.1

Table A6. Missing Mass in the Distribution of Drug Amounts by Race

Panel A. Analysis of Changes in the 0-100g Range.

	Pr(0-5g)	Pr(5-28g)	Pr(28-50g)	Pr(50-60g)	Pr(60-100g)
	(1)	(2)	(3)	(4)	(5)
After 2010 x White	0.0040	-0.1107***	0.0377**	-0.0036	0.0122
	(0.0185)	(0.0193)	(0.0155)	(0.0114)	(0.0146)
After 2010 x Black or Hispanic	0.0227***	-0.0717***	0.0342***	-0.0054*	-0.0102***
	(0.0040)	(0.0051)	(0.0042)	(0.0030)	(0.0039)
Constant	0.1945***	0.3202***	0.0965***	0.0679***	0.1017***
	(0.0069)	(0.0082)	(0.0052)	(0.0044)	(0.0053)
P-value: W = BH	0.3216	0.0505	0.8284	0.8769	0.1377
Observations	50,273	50,273	50,273	50,273	50,273

Panel B. Analysis of Changes in the 100-1000g Range.

	Pr(100-280g)	Pr(280-290g)	Pr(290-470g)	Pr(470-600g)	Pr(600-1000g)
	(6)	(7)	(8)	(9)	(10)
After 2010 x White	0.0005	0.0135**	0.0109	0.0061	0.0294***
	(0.0165)	(0.0056)	(0.0095)	(0.0067)	(0.0093)
After 2010 x Black or Hispanic	-0.0149***	0.0344***	0.0037	0.0021	0.0050**
	(0.0046)	(0.0021)	(0.0026)	(0.0018)	(0.0021)
Constant	0.1484***	0.0031***	0.0350***	0.0160***	0.0166***
	(0.0062)	(0.0010)	(0.0032)	(0.0022)	(0.0022)
P-value: W = BH	0.3705	0.0004	0.4638	0.5669	0.0103
Observations	50,273	50,273	50,273	50,273	50,273

Notes: Robust standard errors in parentheses. The estimates in this table are based on the USSC data. The table reports estimates of eqn. (3) with race interactions, as in eqn. (2). The row "P-value: W = BH" reports the p-value from a test of the null hypothesis that the coefficients on "After 2010 x White" and "After 2010 x Black or Hispanic" are equal. Note, the 95% confidence interval on the white estimate in column (2) includes the coefficient for the black or Hispanic estimate in that column. Summing col. (4)-(6) for white offenders and dividing by col. (7) suggests that -67% of their increased bunching could be explained by decreases in the 50-280g range. However, the 95% confidence interval on that estimate is [-393%, 257%]. Doing the same for black and Hispanic offenders suggests that 88% of their increased bunching could be explained by decreases in the 50-280g range, with a 95% confidence interval of [55.3%, 121.9%]. *** p<0.01, ** p<0.05, * p<0.1

Table A7. Bunching Analysis for Potential Mechanisms

Panel A. Analysis of Bunching in State Convictions and in Drug Seizures					
	Pr(200-400g)	Pr(200-400g)	Pr(280-290g)	Pr(280-290g)	Pr(280-290g)
	(1)	(2)	(3)	(4)	(5)
After 2010	0.00005		-0.0002***		-0.0006***
	(0.0005)		(.0001)		(0.0002)
After 2010 x White		0.0004		-0.0001	
		(0.0011)		(0.0001)	
After 2010 x Black or Hispanic		0.0002		-0.0003***	
		(0.0005)		(0.0001)	
Constant	0.0051***	0.0085***	0.0004***	0.0002***	0.0010***
	(0.0003)	(0.0005)	(0.00005)	(0.0001)	(0.0001)
Data Analyzed	FL Convictions	FL Convictions	Drug Seizures, NIBRS	Drug Seizures, NIBRS	Drug Evidence, DEA STRIDE
Drugs Included	Cocaine, all types	Cocaine, all types	Crack-cocaine	Crack-cocaine	Cocaine, all types
P-value: W = BH	-	0.8148	-	0.2383	-
Observations	214,573	214,573	191,677	191,677	100,306
Panel B. Analysis of Bunching in Prosecutor Case Files and Final Sentencing					
	Pr(280-290g)	Pr(200-400g)	Pr(200-400g)	Pr(280-290g)	Pr(280-290g)
	(6)	(7)	(8)	(9)	(10)
After 2010	0.0783***	0.0389***		0.0332***	
	(0.00561)	(0.0128)		(0.00204)	
After 2010 x White			-0.0050		0.0135**
			(0.0288)		(0.0056)
After 2010 x Black or Hispanic			0.0434***		0.0344***
			(0.0132)		(0.0021)
Constant	0.0039***	0.1031***	0.1186***	0.00487***	0.0031***
	(0.0004)	(0.00745)	(0.0158)	(0.000343)	(0.0010)
Data Analyzed	EOUSA Case Management System	USSC Sentencing, FL only	USSC Sentencing, FL only	USSC Sentencing	USSC Sentencing
Drugs Included	Crack-cocaine	Cocaine, all types	Cocaine, all types	Crack-cocaine	Crack-cocaine
P-value: W = BH	-	-	0.0941	-	0.0004
Observations	19,363	6,605	6,605	50,273	50,273

Notes: Robust standard errors in parentheses. When possible, the specifications above use a sample of offenses with drug amounts between 0 grams and 1000 grams. Analyses of state-level drug convictions do not make this restriction since the state reports broad drug weight categories instead of specific amounts. When broad categories (e.g. 200-400g) are analyzed, a linear trend in year is included. The row "P-value: W= BH" reports the p-value from a test of the null hypothesis that the coefficient on "After 2010 x White" is equal to the coefficient on "After 2010 x Black or Hispanic." **Panel A:** Columns 1-2 show an analysis of reported drug amounts for state-level drug convictions in Florida, columns 3-4 show an analysis of weights for seized drugs reported to the FBI through the National Incident Based Reporting System, and column 5 shows an analysis of weights for drugs sent to DEA laboratories. **Panel B:** Column 6 shows an analysis of weights recorded in case management files from the Executive Office of the US Attorney, columns 7-8 show an analysis of weights from USSC sentencing data for federal convictions in FL using broad drug categories and all types of cocaine, and columns 9-10 show the main bunching results from Table 2 for all federal crack-cocaine convictions in the USSC sentencing data. Coefficients in columns 1, 3, 5, 6-7, and 9 are estimated from eqn. (1), with a linear time trend included for columns 1 and 7 (the broad drug categories). Coefficients in columns 2, 4, 8, and 10 are estimated from eqn. (2), with a linear time trend included for columns 2 and 8. *** p<0.01, ** p<0.05, * p<0.1

Table A8. Offender Behavior by Race

Panel A. Drug Seizures Before and After the Fair Sentencing Act in 2010

	Weight	Pr(280-290g)	Weight	Pr(0-5g)	Pr(5-28g)	Pr(28-50g)	Pr(50-280g)	Pr(270-280g)	Pr(280-290g)	Pr(>290g)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
After 2010 x White			0.0768	0.0342***	-0.0298***	0.0000	-0.0058***	-0.0000	-0.0000	0.0015**
			(0.6040)	(0.0041)	(0.0037)	(0.0017)	(0.0012)	(0.0000)	(0.0001)	(0.0007)
After 2010 x Black			-2.9470***	0.0531***	-0.0264***	-0.0077***	-0.0171***	-0.0001***	-0.0002**	-0.0016***
			(0.2774)	(0.0029)	(0.0026)	(0.0011)	(0.0010)	(0.0001)	(0.0001)	(0.0004)
Black	1.716***	0.0001	2.4062***	-0.0951***	0.0707***	0.0101***	0.0131***	0.0001***	0.0001	0.0009**
	(0.265)	(0.0001)	(0.2867)	(0.0026)	(0.0024)	(0.0010)	(0.0009)	(0.0001)	(0.0001)	(0.0004)
Constant	10.266***	0.0003**	9.8706***	0.7280***	0.2031***	0.0345***	0.0303***	0.0001	0.0003**	0.0038***
	(0.436)	(0.0001)	(0.4458)	(0.0041)	(0.0037)	(0.0016)	(0.0015)	(0.0001)	(0.0001)	(0.0006)
Observations	191,677	191,677	191,677	191,677	191,677	191,677	191,677	191,677	191,677	191,677
P-value: W = B	-	-	0.0000	0.0002	0.4433	0.0001	0.0000	0.0282	0.2444	0.0002

Panel B. Drug Use and Drug Selling After the Fair Sentencing Act in 2010

	Ever Use Crack	Sold Drugs in Past Year	Use Crack & Sold Drugs
	(11)	(12)	(13)
After 2010 x White	0.0019**	-0.0009**	-0.0007***
	(0.0009)	(0.0005)	(0.0002)
After 2010 x Black or Hispanic	-0.0053***	-0.0031***	-0.0010***
	(0.0015)	(0.0009)	(0.0003)
Black or Hispanic	0.0033***	0.0039***	-0.0009***
	(0.0012)	(0.0007)	(0.0003)
Constant	0.0342***	0.0145***	0.0037***
	(0.0005)	(0.0007)	(0.0001)
Observations	763,335	762,322	762,054
P-value: W = BH	0.0000	0.0257	0.3350

Notes: Panel A: Robust standard errors estimated jointly by seemingly unrelated regression in parentheses. This analysis uses the weights of seized drugs reported to the FBI through the National Incident Based Reporting System. Ethnicity is not consistently recorded in NIBRS over this time period. As such, I refer to offenders as black or white, omitting the Hispanic label used in previous analyses. Columns 1-2 show the relationship between race of offender and drug weight seized, in general. Column 3 shows how the weight of an offender's seized drugs changes by race after 2010. Columns 4-10 show how the probability an offender's seized drugs are in a certain bin changes by race after 2010. All specifications include state fixed effects and controls for age and sex. The row "P-value: W=B" reports the p-value from a test of the null hypothesis that the coefficient on "After 2010 x White" is equal to the coefficient on "After 2010 x Black." Coefficients in column 1 are estimated from the following regression: $Weight = \alpha_0 + \beta_1 \text{Black}_i + X_i + Z_s + \epsilon_i$. The coefficients in column 2 are estimated from the same specification with a binary variable for the 280-290g range as the dependent variable. Coefficients in column 3 are estimated from the following regression: $Weight = \alpha_0 + \beta_1(\text{Black} \times \text{After2010})_{it} + \beta_2(\text{White} \times \text{After2010})_{it} + \text{Black}_i + X_i + Z_s + \epsilon_{it}$ The coefficients in columns 4-10 are estimated from the same specification with binary variables for the range of interest as the dependent variable. **Panel B:** Robust standard errors in parentheses. This analysis uses data from the National Survey on Drug Use and Health. Column 11 shows that the fraction of respondents answering "yes" to the question, "have you ever, even once, used crack-cocaine?" does not increase after 2010. Column 12 shows that the fraction of respondents answering a number greater than zero to the question, "how many times have you sold illegal drugs in the past 12 months?" does not increase after 2010. Column 13 shows that the fraction of people answering yes to both of these questions does not increase after 2010. All specifications use year-specific sampling weights. The row "P-value: W=BH" reports the p-value from a test of the null hypothesis that the coefficient on "After 2010 x White" is equal to the coefficient on "After 2010 x Black or Hispanic." Coefficients are estimated from the following regression: $Outcome = \alpha_0 + \beta_1(\text{BlackOrHispanic} \times \text{After2010})_{it} + \beta_2(\text{White} \times \text{After2010})_{it} + \text{BlackOrHispanic}_i + \epsilon_{it}$. *** p<0.01, ** p<0.05, * p<0.1

Table A9. Relationship between Bunching in EOUSA and Imputed Defendant Race

	280-290g, Missing = 0	280-290g	280-290g, Missing = 0	280-290g	280-290g, Missing = 0
	(1)	(2)	(3)	(4)	(5)
After 2010	0.0241***	-0.0318	-0.0153**	-0.00536	-0.00511
	(0.00180)	(0.0196)	(0.00654)	(0.0229)	(0.00826)
After 2010 ×		0.123***	0.0457***	0.0793***	0.0303***
(% Black or Hispanic)		(0.0295)	(0.01000)	(0.0282)	(0.00984)
Constant	0.00159***	-0.00193	-0.00111	-0.00202	-0.000842
	(0.000195)	(0.00319)	(0.00130)	(0.00633)	(0.00259)
Prosecutor FEs	NO	NO	NO	YES	YES
Observations	49,342	13,384	32,751	13,384	32,751

Notes: Robust standard errors in parentheses. The estimates in this table are based on the EOUSA data. Column 1 displays the main bunching result using a dependent variable that is equal to one when the drug weight in the case is between 280-290g and is equal to zero if it is not in that range. Importantly, "280-290g, Missing=0" is also coded as zero if the drug weight field is missing. This is especially relevant for cross-district analyses because weight missingness varies substantially across districts. Coefficients are estimated from eqn. (1) for column 1; columns 2-5 interact the after 2010 dummy variable with a probabilistic estimate of defendant race (race is not available in the EOUSA files). To impute defendant race, I match EOUSA information about sentence year-month to USSC information about the racial composition of sentences in each district year-month. Specifications with the race and after 2010 interactions also include a variable equal to % black and Hispanic offenders in the district-year-month. The number of observations falls because not all cases that enter EOUSA end in a sentence or have sentence information recorded. *** p<0.01, ** p<0.05, * p<0.1

Table A10. Missing Mass, Comparing "Bunching" and "Non-Bunching" Prosecutors

	Atty. with 5+ Cases			Atty. with 15+ Cases		
Panel A. Bunching at 280g Post-2010 and Distribution of Cases Post-2010						
	Below 280g	280-290g	Above 290g	Below 280g	280-290g	Above 290g
	(1)	(2)	(3)	(4)	(5)	(6)
Atty. Bunches at 280-290g	-0.1315***	0.1487***	-0.0172	-0.0704	0.1426***	-0.0721
	(0.0484)	(0.0361)	(0.0280)	(0.0840)	(0.0507)	(0.0638)
Constant	0.9024***	0.0305***	0.0671***	0.8651***	0.0209**	0.1140*
	(0.0246)	(0.0058)	(0.0247)	(0.0610)	(0.0081)	(0.0615)
Observations	1,589	1,589	1,589	693	693	693
Panel B. Bunching at 50g Pre-2010 and Distribution of Cases Post-2010						
	Below 280g	280-290g	Above 290g	Below 280g	280-290g	Above 290g
	(7)	(8)	(9)	(10)	(11)	(12)
Atty. Bunches at 50-60g	-0.0611**	0.0446**	0.0165	-0.0814***	0.0604***	0.0211
	(0.0248)	(0.0173)	(0.0152)	(0.0259)	(0.0163)	(0.0174)
Constant	0.9212***	0.0358***	0.0430***	0.9460***	0.0144	0.0396***
	(0.0171)	(0.0114)	(0.0117)	(0.0166)	(0.0091)	(0.0137)
Observations	1,277	1,277	1,277	987	987	987

Notes: Standard errors clustered at the prosecutor level in parentheses. The estimates in this table are based on the EOUSA data. See Table 5 notes for more detail on estimation. These regressions are restricted to post-2010 cases and to prosecutors with 5+ cases post-2010 in columns 1-3 and 7-9 and with 15+ cases post-2010 in columns 4-6 and 10-12. Note, to avoid a mechanical relationship in columns 1-6, I use leave-out-means to classify bunching attorneys. *** p<0.01, ** p<0.05, * p<0.1

Table A11. Missing Mass in the Distribution of Drug Amounts, Comparing "Bunching" and "Non-Bunching" Prosecutors

Panel A. Bunching at 280g Post-2010 and Distribution of Cases Post-2010			
	Below 280g	280-290g	Above 290g
	(1)	(2)	(3)
Pct. of Cases Bunched at 280-290g	-0.5486***	0.5650***	-0.0163
(Leaving out current case in calculation)	(0.1161)	(0.0691)	(0.1005)
Constant	0.8933***	0.0357***	0.0710**
	(0.0344)	(0.0071)	(0.0347)
Observations	960	960	960
Panel B. Bunching at 50g Pre-2010 and Distribution of Cases Post-2010			
	Below 280g	280-290g	Above 290g
	(4)	(5)	(6)
Pct. of Cases Bunched at 50-60g	-0.3634***	0.2645***	0.0989*
(Leaving out current case in calculation)	(0.1043)	(0.0705)	(0.0566)
Constant	0.9192***	0.0359***	0.0449***
	(0.0126)	(0.0086)	(0.0088)
Observations	1,135	1,135	1,135
Panel C. Persistence of Attorney-level Bunching Across Districts, from Analysis of Movers			
	Pr(Atty. Bunches at 10-Year MM in 2nd Dist.)		
	(1)	(2)	(3)
Atty. Bunches at 10-Year MM in 1st District	0.199**	0.181**	0.278**
	(0.0935)	(0.0811)	(0.109)
Constant	0.490***	0.427***	0.447***
	(0.0707)	(0.0575)	(0.0817)
Bunching classification	National	Missing=0, National	District
Observations	109	149	78

Notes: Standard errors clustered at the prosecutor level in parentheses. The estimates in this table are based on the EOUSA data. **Panel A:** Coefficients are estimated from the following regression for each range: $(Charged\ X - Yg)_i = \alpha_0 + \beta_1 PctBunching280g_i + \epsilon_i$ where $PctBunchingAt280g$ is equal to the prosecutor's fraction of cases at 280-290g post-2010 (excluding the current observation) minus the average fraction of cases at 280-290g pre-2010. These regressions are restricted to post-2010 cases and to prosecutors with 10+ cases post-2010. **Panel B:** Coefficients are estimated from the following regression for each range: $(Charged\ X - Yg)_i = \alpha_0 + \beta_1 PctBunching50g_i + \epsilon_i$ where $PctBunchingAt50g$ is equal to the prosecutor's fraction of cases at 50-60g pre-2010 minus the average fraction of cases at 50-60g post-2010. These regressions are restricted to post-2010 cases and to prosecutors with 10+ cases pre-2010. **Panel C:** For this analysis, I identify the attorneys who switch districts at some point in their career (using their initials recorded in the EOUSA case management system). I then identify the set of those attorneys who bunch at a 10-year mandatory minimum in their first district. I also limit the sample to attorneys who have at least 5+ cases in their first district and 5+ cases in their second district (this maintains the 10+ restriction but spreads it evenly across districts). Since I am analyzing movers, it is almost always the case that the cases in their first district are pre-2010 cases, meaning that the bunching classification is determined based on bunching at 50-60g. Finally, I regress an indicator equal to one if the attorney bunches at the 10-year threshold in their second district on whether they bunched at the 10-year threshold in their first district. I do this for three methods of classifying bunching attorneys. Column 1 uses the national baseline as in Table 5, column 2 does the same but includes missing values re-coded as zero, and column 3 mirrors the approach of column 1 but defines the "baseline" bunching at the district-level. For example, an attorney **i** in district **A** is defined as bunching at 50-60g in column 3 if their fraction of cases at 50-60g pre-2010 is above the fraction of cases at 50-60g in district **A** post-2010. In all cases, I find that an attorney who bunches above the mandatory minimum threshold in their first district is more likely to do so in their second district than an attorney who does not bunch above the mandatory minimum threshold in their first district.*** p<0.01, ** p<0.05, * p<0.1

Table A12. Relationship between Attorney-Level Bunching and Other Case Characteristics

Panel A. Relationship between Various Bunching Ranges

	28-29g	28-29g	50-60g	280-290g	280-290g	280-290g
	(1)	(2)	(3)	(4)	(5)	(6)
Atty. Bunches at 280-290g Post-2010	0.131**	0.127**	0.184***			
	(0.0618)	(0.0583)	(0.0671)			
Atty. Bunches at 28-29g Post-2010				0.143***	0.0803**	
				(0.0544)	(0.0338)	
Atty. Bunches at 50-60g Pre-2010						0.0589***
						(0.0174)
Constant	0.132***	0.121***	0.155***	0.0826***	0.0479***	0.0233**
	(0.0241)	(0.0233)	(0.0288)	(0.0271)	(0.0149)	(0.0105)
Sample Years	2011-2017	2011-2017	2000-2010	2011-2017	2011-2017	2011-2017
Sample Restriction	0-280g	0-280g, 290-1000g	0-1000g	29-1000g	0-28g, 29-1000g	0-1000g
Observations	837	904	1,970	478	834	1,135

Panel B. Relationship between Case Complexity and Bunching

	Neither District nor National Priority	Multiple Agencies	Any Gang Defendants	Retained Counsel	Multiple Opposing Counsel	Number of Court Events	Multi-day Offense
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Atty. Bunches at 280-290g Post-2010	0.0771	-0.0037	0.0109	0.0699	-0.0605	0.0863	0.0746
	(0.0836)	(0.0277)	(0.0275)	(0.0466)	(0.0565)	(0.0982)	(0.0504)
Constant	0.1697***	0.0823***	0.0448***	0.1699***	0.3882***	2.0174***	0.4748***
	(0.0375)	(0.0188)	(0.0118)	(0.0203)	(0.0333)	(0.0489)	(0.0364)
Observations	2,584	2,545	2,545	808	900	2,584	1,275

Notes: Standard errors clustered at the prosecutor level in parentheses. The estimates in this table are based on the EOUSA data. **Panel A:** Columns 1-3 estimate the likelihood an attorney who bunches at 280-290g (i.e. who has a fraction of cases at 280-290g post-2010 that is above the average fraction of 280-290g cases pre-2010) also bunches at 28-29g post-2010, 28-29g post-2010, and 50-60g pre-2010, respectively. Column 1 limits the sample to cases with below 280g to avoid a mechanical relationship. Column 2 does this by excluding only the 280-290g range from the sample. Both approaches yield similar results. Column 3, since the dependent variable is based on pre-2010 data, uses the full range of cases (0-1000g). Columns 4-6 estimate the likelihood an attorney who bunches at 28-29g post-2010 or 50-60g pre-2010 also bunches at 280-290g post-2010. As before, columns 4 and 5 exclude the 28-29g range to avoid a mechanical relationship. 28-29g is relevant post-2010 because 28g is the threshold for the 5-year mandatory minimum after 2010. 50-60g is relevant pre-2010 because 50g is the threshold for the 10-year mandatory minimum prior to 2010. All regressions in this table use the sample of attorneys who have 10+ cases (post-2010 for columns 1-5; pre-2010 for column 6). In all cases, an attorney who bunches at one mandatory minimum threshold is more likely to bunch at a separate mandatory minimum threshold. **Panel B:** Columns 1 estimates the likelihood an attorney who bunches at 280-290g (i.e. who has a fraction of cases at 280-290g post-2010 that is above the average fraction of 280-290g cases pre-2010) has a case that is classified as neither a district nor a national priority. Column 2-3 estimates whether those attorneys are more likely to have cases which involve multiple agencies or involve a defendant labeled as a gang defendant. Column 4-5 estimates whether those attorneys are more likely to have cases in which the defendant retains private counsel or has multiple opposing counsel working on the case. Note, however, that data on opposing counsel is missing for the vast majority of cases in this data. Column 6 estimates whether those attorneys have cases with more court events (e.g. new filings, indictments, information, superseding indictments, etc.). Column 7 estimates whether those attorneys have more cases in which the charged offense spans more than one day. *** p<0.01, ** p<0.05, * p<0.1

Table A13. Robustness of Effect of *Alleyne v. US* using Alternative Data Sources and Accounting for Missing Values

Panel A.Testing for *Alleyne* Effect in USSC Data, Based on Sentence Date

	Pr(Below 280g)			Pr(280-290g)			Pr(Above 290g)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Sentenced After June	-0.0593**	-0.0454***	-0.0306**	0.0418***	0.0282**	0.0180	0.0175	0.0172	0.0126
	(0.0275)	(0.0157)	(0.0147)	(0.0152)	(0.0114)	(0.0115)	(0.0250)	(0.0140)	(0.0117)
Sentenced After June x Year = 2013	0.0532	0.0363	0.0190	-0.0519**	-0.0367**	-0.0256	-0.00131	0.000441	0.00663
	(0.0420)	(0.0216)	(0.0206)	(0.0240)	(0.0174)	(0.0173)	(0.0367)	(0.0211)	(0.0196)
Constant	0.852***	0.854***	0.844***	0.0344***	0.0372***	0.0431***	0.114***	0.109***	0.113***
	(0.0163)	(0.00879)	(0.0106)	(0.00807)	(0.00614)	(0.00796)	(0.0153)	(0.00925)	(0.00856)
Years Included	2011-2013	2011-2014	2011-2015	2011-2013	2011-2014	2011-2015	2011-2013	2011-2014	2011-2015
Observations	4,817	6,548	7,965	4,817	6,548	7,965	4,817	6,548	7,965

Panel B. Effect of *Alleyne v. US*, Accounting for Missing Values in EOUSA, Bandwidth +/-150 days

	Pr(Missing Weight)	Pr(280-290g, Missing=0)
	(1)	(2)
After June 17th, 2011-2016	-0.0211	0.00438
	(0.0309)	(0.00869)
After June 17th, 2013	-0.0219	-0.0389*
	(0.0702)	(0.0223)
Constant	0.834***	0.0243
	(0.0690)	(0.0269)
Observations	6,182	6,182

Notes: Panel A: Robust standard errors in parentheses for columns 1, 4, and 7 (given the small number of total clusters). Standard errors clustered at the sentence year-month level in parentheses for columns 2-3, 5-6, and 8-9. The estimates in this panel are based on the USSC data. In the EOUSA data, the drug quantity field does not necessarily display the final amount used for sentencing in the case. Instead, it is the amount entered into the case management system. Based on the user manual for the system, quantity is not a required field that must be updated throughout the life of the case. The user is first prompted to enter quantity when the case is opened. In practice, this is correlated with the final amount used in sentencing at the district-by-month level, and the patterns of bunching are similar in the EOUSA and USSC data. However, this difference is important for the analysis of *Alleyne*. In Table 6, I examine how bunching differs based on when the case is received since that is when prosecutors are likely recording the amount in the case management system. In cases received and recorded before *Alleyne*, prosecutors often indicate that the quantity involved is at 280g. In cases received and recorded shortly after *Alleyne*, prosecutors are less likely to indicate that 280g were involved. *Alleyne*, however, will affect the **final** amount used at sentencing in cases received both before and after the decision as long as they are sentenced after *Alleyne*. For cases initiated before *Alleyne* but sentenced after, prosecutors will likely need to file a superseding indictment or superseding information that addresses drug quantity. This means that there might also be a discontinuity in bunching in final amount used at sentencing for cases sentenced before and after *Alleyne*. The USSC data does not include exact date of sentencing, but it does include sentence month and year. I use this data in this table and show that bunching at final sentencing also falls, as we should expect, for cases sentenced shortly after *Alleyne*. Columns 1-3 examine the probability a case is recorded below 280g; columns 4-6, in 280-290g; and columns 7-9, above 290g. Columns 1, 4, and 7 estimate this using the year the case is decided and the two years before it; columns 2, 5, and 8 include the year of, the two years before, and one year after; columns 3, 6, and 9 include all years after 2010. I don't include cases sentenced in 2016 because the data does not include any cases sentenced after September 2016. **Panel B:** Standard errors clustered at the date the case is received in parentheses. The estimates in this panel are based on the EOUSA data. The coefficients above are estimated from the regression discontinuity style model from the main text. In column 1, Y_{it} is equal to one if the observation has a missing drug weight and equal to zero otherwise. There is little effect of *Alleyne* on the likelihood an observation has missing drug weight. In column 2, Y_{it} is equal to one if the drug weight is equal to 280-290g and equal to zero if the weight is outside the 280-290g range or if the weight is missing. There is still a decrease in bunching after *Alleyne* when accounting for missing values. *** p<0.01, ** p<0.05, * p<0.1

Table A14. Degree of Bunching Post-2010 by Race and District-level Characteristics

	Pr(280-290g)											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
After '10 x W	0.0187***	0.0222**	0.0136	0.0234**	0.0145	0.0198**	0.0155*	0.0084	0.0162*	0.0130**	0.0158**	0.0157**
	(0.0073)	(0.0105)	(0.0084)	(0.0107)	(0.0090)	(0.0085)	(0.0089)	(0.0062)	(0.0096)	(0.0062)	(0.0072)	(0.0067)
After '10 x BH	0.0397***	0.0439***	0.0308***	0.0505***	0.0305***	0.0353***	0.0365***	0.0360***	0.0359***	0.0301***	0.0353***	0.0364***
	(0.0028)	(0.0035)	(0.0028)	(0.0036)	(0.0027)	(0.0029)	(0.0033)	(0.0033)	(0.0031)	(0.0050)	(0.0088)	(0.0082)
After '10 x W x Char.	-0.0160	-0.0143	-0.0006	-0.0171	-0.0019	-0.0147	-0.0065	0.0086	-0.0069	0.0052	-0.0101	-0.0157**
	(0.0098)	(0.0122)	(0.0111)	(0.0120)	(0.0113)	(0.0106)	(0.0111)	(0.0116)	(0.0115)	(0.0255)	(0.0105)	(0.0067)
After '10 x BH x Char.	-0.0154***	-0.0171***	0.0082*	-0.0323***	0.0093**	-0.0021	-0.0023	-0.0012	-0.0011	0.0311	-0.0033	-0.0124
	(0.0043)	(0.0044)	(0.0044)	(0.0043)	(0.0044)	(0.0043)	(0.0045)	(0.0045)	(0.0045)	(0.0320)	(0.0113)	(0.0102)
Constant	0.0017	0.0015	0.0049***	0.0028**	0.0053***	0.0028**	0.0022*	0.0022**	0.0030**	0.0030**	0.0034**	0.0035***
	(0.0012)	(0.0011)	(0.0019)	(0.0014)	(0.0019)	(0.0012)	(0.0013)	(0.0011)	(0.0014)	(0.0012)	(0.0014)	(0.0013)
Characteristic	District-by-Year Above Med. # of Cases per Attorney	District Above Med. % of Guilty Cases	District Above Med. % of Declined Cases	District Above Med. % of Plea Cases	District Above Med. % of Cases Dismissed for 'Weak Evidence'	District Above Med. % of Cases Dismissed for 'Resources'	District Above Med. % Of Cases with Retained Counsel (based on '99-'02)	District Above Med. % Of Cases, Appointed Counsel	District Above Med. % Of Cases, Public Defender	District contains one of the ten biggest cities based on population	District is one of the ten biggest districts based on cases in 1999-2010	State has more than 4 gang members per 1,000 people (DEA 2009)
P-value: W = BH	0.0071	0.0505	0.0520	0.0158	0.0886	0.0852	0.0261	0.0001	0.0508	0.0414	0.0802	0.0425
P-value: W+Char. = BH+Char.	0.0035	0.0048	0.0012	0.0518	0.0004	0.0001	0.0006	0.0837	0.0003	0.0001	0.0000	0.0003
Observations	50,273	50,273	50,273	50,273	50,273	50,273	46,950	46,950	46,950	50,273	50,273	50,273

Notes: Robust standard errors in parentheses. The estimates in this table are based on the USSC data (although the EOUSA data is used to define characteristics of interest for columns 1-6). "Characteristic" or "Char." represents a dummy variable that is a district or district-by-year characteristic. The specific characteristic of interest is noted in the "Characteristic" row. The row "P-value: W = BH" reports the p-value from a test of the null hypothesis that the coefficient on "After 2010 x White" is equal to the coefficient on "After 2010 x Black or Hispanic." The row "P-value: W+Char. = BH+Char." reports the p-value from a test of the null hypothesis that the combined coefficients on "(After 2010 x White)+(After 2010 x White x Characteristic)" is equal to the combined coefficients on "(After 2010 x Black or Hispanic)+(After 2010 x Black or Hispanic x Characteristic)." Column 1 interacts the after 2010 by race dummy variables with a district-by-year dummy variable indicating if the district received above the median number of cases (per attorney) in the year. Column 2 studies districts above/below the median for percent of cases that end in a guilty verdict, column 3 studies districts above/below the median for percent of cases declined, and column 4 studies districts above/below the median for percent of cases that end in plea deals. Columns 5 and 6 study districts above/below the median for percent of cases declined due to "weak evidence" or "lack of resources" (as coded in the EOUSA case files, although codes are not present for all cases). Columns 7-9 use the USSC data from 1999-2002 on type of defense counsel to examine heterogeneity by type of defense counsel used in the district. Fourteen districts do not report this data in 1999-2002, hence the different observation count in these columns. Places with different rates of retained, appointed, or public defender defense counsel from 1999-2002 nevertheless have similar bunching at 280g post-2010. Column 10 examines heterogeneity based on whether the district contains one of the 10 largest cities in the US. Column 11 examines heterogeneity based on whether the district is one of the top 10 districts in terms of number of crack-cocaine cases from 1999-2010. Column 12 uses the DEA Drug Threat Assessment to classify states based on gang activity and examine heterogeneity by whether the state has more or less than 4 gang members per 1,000 people. *** p<0.01, ** p<0.05, * p<0.1

Table A15a. Relationship between Race and Gang Involvement among Federal Inmates

	In Drug Org. Prior to Arrest	Illegal Income Prior to Arrest	In Drug Org.	Hired Private Counsel
	(1)	(2)	(3)	(4)
Panel A. Inmates Reporting Any Drug Offense				
Black or Hispanic	-0.121***	-0.114***	-0.134***	-9.99e-06
	(0.0251)	(0.0326)	(0.0407)	(0.0311)
Constant	0.222***	0.513***	0.292***	0.363***
	(0.0231)	(0.0282)	(0.0359)	(0.0268)
Sample Restriction	-	-	Illegal Income > 0	-
Observations	1,268	1,219	521	1,255
Panel B. Inmates Reporting a Crack-Cocaine Offense				
Black or Hispanic	-0.116	-0.102	-0.138	0.104
	(0.105)	(0.138)	(0.156)	(0.113)
Constant	0.200*	0.615***	0.250	0.214*
	(0.104)	(0.135)	(0.154)	(0.110)
Sample Restriction			Illegal Income > 0	
Observations	324	311	160	322

Notes: Robust standard errors in parentheses. The estimates in this table are based on the SIFCF data. Column 1 estimates the racial difference in whether an inmate reports being involved in a drug organization prior to arrest. Column 2 estimates the racial difference in whether an inmate reports earning illegal income prior to arrest. Column 3 estimates the racial difference in whether an inmate reports being involved in a drug organization prior to arrest, restricting to inmates that report positive illegal income prior to their arrest. Column 4 estimates the racial difference an inmate reports retaining private counsel. Panel A restricts the analysis to all drug offenders, and Panel B restricts to offenders that report involvement with crack-cocaine. *** p<0.01, ** p<0.05, * p<0.1

Table A15b. Relationship between Race and Drug Involvement among Federal Inmates

	(1) Weight	(2) Weight	(3) Pr(Above 280g)	(4) Pr(Above 280g)	(5) # of Members in Gang	(6) Leader in Gang	(7) Middle Man	(8) Underling	(9) Seller	(10) Other Role
Black or Hispanic	18.5	-65.8	0.00883	0.0221	0.936	-0.0136	-0.118*	0.110*	0.0683	-0.0464
	(32.2)	(701.7)	(0.0825)	(0.113)	(4.53)	(0.0616)	(0.0653)	(0.0641)	(0.0669)	(0.0533)
Constant	91.1***	862.3	0.0833	0.214*	18.0***	0.194***	0.278***	0.167***	0.208***	0.153***
	(30.0)	(681.6)	(0.0801)	(0.110)	(3.51)	(0.0469)	(0.0531)	(0.0442)	(0.0482)	(0.0427)
Sample Restriction	0-1000g	0-25000g	0-1000g	0-25000g	In Drug Org. = 1	In Drug Org. = 1	In Drug Org. = 1	In Drug Org. = 1	In Drug Org. = 1	In Drug Org. = 1
Observations	229	272	229	272	154	166	166	166	166	166

Notes: Robust standard errors in parentheses. The estimates in this table are based on the SIFCF data. This table summarizes drug involvement by race for inmates reporting crack-cocaine involvement. Column 1-4 estimate racial differences in reported weight involved or whether that weight was above 280g. These regressions are restricted to observations with non-missing weight. Columns 5-10 estimate racial differences in the inmates' reported role in the gang, restricting to inmates who report involvement in a drug organization prior to arrest. Column 5 estimates racial differences in the size of the gang and columns 6-10 estimate racial differences in whether the inmate reports being a leader, middle man, underling, seller, or other role. *** p<0.01, ** p<0.05, * p<0.1

Table A16. Change in Bunching by Prosecutors after 2017 AG Sessions Memo

	Pr(Case Recorded with 280-290g)			
	(1)	(2)	(3)	(4)
After May 10th, 2017	0.0055	-0.0183	-0.0002	-0.0150
	(0.0288)	(0.0707)	(0.0115)	(0.0274)
After May 10th, 2011-2016		0.0371		0.0111
		(0.0283)		(0.0088)
Constant	0.0351**		0.0152**	
	(0.0173)		(0.0076)	
Years Included	2017	2011-2017	2017	2011-2017
Missing Values as Zero	NO	NO	YES	YES
Bandwidth	N/A	±110 days	N/A	±110 days
Observations	188	1,756	463	5,456

Notes: Standard errors clustered at the date the case is received in parentheses. The estimates in this table are based on the EOUSA data. The coefficients above are estimated from a regression discontinuity style model similar to eqn. (6), but where AfterMay10 is a binary variable equal to one for cases received after May 10th in each year, DaysFrom, the running variable in eqn. (6), is the date the case was received centered at zero on May 10th, and Year2017 is equal to one for cases received in 2017 (the year the Holder memo was rescinded). In addition, all specifications above include day-of-week fixed effects, D_{it}, for the day the case is received. The ±110 day bandwidth is selected because the data ends 110 days after May 10 in 2017. Columns 1 and 2 only examine the discontinuity around May 10 in 2017; columns 3 and 4 estimate the discontinuity around May 10 in 2017 relative to the discontinuity around May 10 all other years from 2011-2016. *** p<0.01, ** p<0.05, * p<0.1

Table A17. Controlling for Drug Seizure Proxies and Final Offense Characteristics

	Pr(Case Recorded with 280-290g)		
	(1)	(2)	(3)
After 2010 x Black or Hispanic	0.0209***	0.0211***	0.0199***
	(0.0060)	(0.0060)	(0.0062)
After 2010	0.0135**	0.0134**	0.0137**
	(0.0056)	(0.0056)	(0.0059)
Black or Hispanic	0.0020*	0.0019*	-0.0004
	(0.0010)	(0.0011)	(0.0012)
Constant	0.0031***	0.0022*	0.0041***
	(0.0010)	(0.0011)	(0.0013)
Drug Seizure Controls	NO	YES	YES
Final Offense Controls	NO	NO	YES
Observations	50,273	50,273	50,273

Notes: Robust standard errors in parentheses. The estimates in this table are based on the USSC data combined with NIBRS and DEA data. Column 1 reproduces the main results from Table 2. In column 2, I control for a proxy of individual drug involvement by linking each USSC case to mean drug quantity from NIBRS at the state-by-month-by-race level and from DEA STRIDE at the state-by-month level. This linkage is done based on month of sentencing in the USSC data, and sentencing in a federal case likely occurs long after the arrest. Thus, I control for lagged seizure quantities for up to 24 months prior to sentencing. In column 3, I add further controls for the "final offense level" fixed effects. Despite the "final offense level" being a product of prosecutor choices, there remains a racial disparity in bunching even within these categories. *** p<0.01, ** p<0.05, * p<0.1

Table A18. Relationship between Bunching at 280g and Judge Characteristics

	Pr(280-290g) (1)	Pr(280-290g) (2)	Pr(280-290g) (3)
After 2010	0.0898***	0.0852***	0.0974***
	(0.0119)	(0.0240)	(0.0222)
After 2010 ×White Judge		-0.0018	
		(0.0023)	
After 2010 ×Republican Judge			-0.0013
			(0.0015)
Constant	0.0038***	0.0053**	0.0046***
	(0.0007)	(0.0022)	(0.0013)
Observations	8,794	8,794	8,794

Notes: Standard errors clustered at the judge level in parentheses. The estimates in this table are based on the EOUSA data. This table uses data on the first judge listed in the case file, although results are robust to using the last judge listed on the case. I can match judge race and political party to approximately half of the cases in the EOUSA data. For data on judge characteristics, I use the file provided by Cohen and Yang (2019). I estimate whether bunching at 280g is related to judge race or judge political party. Column (1) shows that the level of bunching is similar for cases where I can match judge characteristics. Column (2) shows that judge race does not affect bunching at 280g. Column (3) shows that judge political party does not affect bunching at 280g. *** p<0.01, ** p<0.05, * p<0.1

Table A19. Relationship between Various Bunching Ranges, Judges

	28-29g (1)	28-29g (2)	50-60g (3)	280-290g (4)	280-290g (5)	280-290g (6)
Judge Bunches at	-0.00844	-0.00438	0.0536			
280-290g Post-2010	(0.0303)	(0.0284)	(0.0415)			
Judge Bunches at				-0.00149	-0.0135	
28-29g Post-2010				(0.0522)	(0.0328)	
Judge Bunches at						0.0239
50-60g Pre-2010						(0.0213)
Constant	0.150***	0.138***	0.201***	0.168***	0.107***	0.0676***
	(0.0191)	(0.0181)	(0.0249)	(0.0388)	(0.0248)	(0.0178)
Sample Restriction	0-280g	0-280g, 290-1000g	0-1000g	29-1000g	0-28g, 29-1000g	0-1000g
Observations	767	825	2,686	468	790	1,261

Notes: Standard errors clustered at the judge level in parentheses. The estimates in this table are based on the EOUSA data. This table uses data on the first judge listed in the case file, although results are robust to using the last judge listed on the case. See Table A12 for a discussion of the dependent and independent variables in column 1-6. The major difference is that these regressions examine judges classified as "bunching" at a given range. I use that judge ID to calculate the fraction of cases at 280-290g post-2010, 28-29g post-2010, and 50-60g pre-2010 for each judge. All regressions in this table use the sample of judges who have 10+ cases (post-2010 for columns 1-5; pre-2010 for column 6). Judges who bunch at one mandatory minimum threshold are not more likely to bunch at other mandatory minimum thresholds. *** p<0.01, ** p<0.05, * p<0.1

Table A20. Degree of Bunching Post-2010 by Race and Share Black in District Population

	(1) Decile 1	(2) Decile 2	(3) Decile 3	(4) Decile 4	(5) Decile 5	(6) Decile 6	(7) Decile 7	(8) Decile 8	(9) Decile 9	(10) Decile 10
Black or Hispanic	-0.00574	0.0420**	-0.00238	0.0241***	0.0156***	0.0116	-0.0245	0.0450**	0.0278	0.0403***
	(0.00945)	(0.0179)	(0.0163)	(0.00626)	(0.00542)	(0.0214)	(0.0291)	(0.0200)	(0.0292)	(0.00635)
Mean Share Black in Dist. in 2010	0.015	0.034	0.054	0.066	0.089	0.121	0.151	0.207	0.294	0.390
Observations	1,376	1,444	3,819	4,946	5,623	4,961	7,297	7,284	7,924	5,416

Notes: Robust standard errors in parentheses. The estimates in this table are based on the USSC data. In this table, I split districts into deciles based on the share black in the district in 2010 (data aggregated from county-level data from Opportunity Insights). These deciles are formed at the district level, which is why the case counts can differ dramatically across deciles. Each column shows results from separate regressions. In each regression, the sample is limited to only those districts in the decile bin. There is no clear relationship between decile and the racial disparity in bunching. Note that electorate preferences are unlikely to affect decisions in this context; federal judges are appointed and AUSAs are hired directly by US Attorney's offices. *** p<0.01, ** p<0.05, * p<0.1

Table A21. Robustness Tests for Relationship between Racial Animus and the Racial Disparity Bunching at 280g

	Pr(280-290g)					
	(1)	(2)	(3)	(4)	(5)	(6)
After '10 x W x Above Med. Animus	0.0070	0.0059	0.0013	-0.0018		
	(0.0122)	(0.0134)	(0.0227)	(0.0225)		
After '10 x BH x Above Med. Animus	0.0191*	0.0220*	0.0320***	0.0318***		
	(0.0114)	(0.0125)	(0.0110)	(0.0108)		
After '10 x W x Continuous Animus					-0.0571	
					(0.0780)	
After '10 x BH x Continuous Animus					0.1073**	
					(0.0480)	
After '10 x IAT-Lawyers						-0.0084
						(0.0100)
After '10 x BH x IAT-Lawyers						0.0164
						(0.0108)
Constant	0.0058**	0.0008	-0.0230	-0.0225	-0.0047	0.0047
	(0.0022)	(0.0031)	(0.0286)	(0.0291)	(0.0322)	(0.0054)
Other Controls Included	None	Offender Controls	District Economic Controls	Offender + District Controls	Offender + District Controls	State x After 2010 x Race FEs
Observations	50,090	49,609	50,090	49,609	49,609	49,257

Notes: Standard errors clustered at the state level in parentheses for columns 1-5. Standard errors clustered at the district level are in parentheses for column 6. The estimates in this table are based on the USSC data. The first four columns examine differences in bunching for offenders convicted in states with above/below the median level of racial animus. Column 1 reports this result with no additional controls; column 2 introduces individual controls (college, male, age, criminal history, citizenship, dependents, state caseload, the average black-white gap in years sentenced at the district level pre-2010, and the average black-white gap in drug weights charged above 50g at the district level pre-2010) interacted with the after 2010 by race binary variables; column 3 introduces district controls for economic characteristics (median household income in 2016, non-white share of population in 2010, population density in 2010, fraction with college in 2010, poor share in 2010, log of wage growth for high school graduates, black-white and Hispanic-white differences in incarceration and income conditional on parent income rank at the 25th percentile, job density in 2013, and annual job growth from 2004-2013) interacted with the after 2010 by race binary variables; column 4 combines all controls from columns 2-3. Column 5 examines the relationship between animus and bunching using the continuous measure of animus from Google Trends (scaled from 0 to 1). Column 6 introduces a district level measure of animus, the implicit association test scores for lawyers (and other legal-service workers) aggregated to the district level. Since the measure is at the district level, I include state fixed effects interacted with the after 2010 by race binary variables. The estimate is identified from within-state variation in the IAT-animus measure, and the p-value on the estimate is 0.13. The IAT measure is scaled to the median difference between the minimum and maximum score in states, meaning a one unit increase is approximately equivalent to moving from the minimum score in a state to the maximum score. *** p<0.01, ** p<0.05, * p<0.1

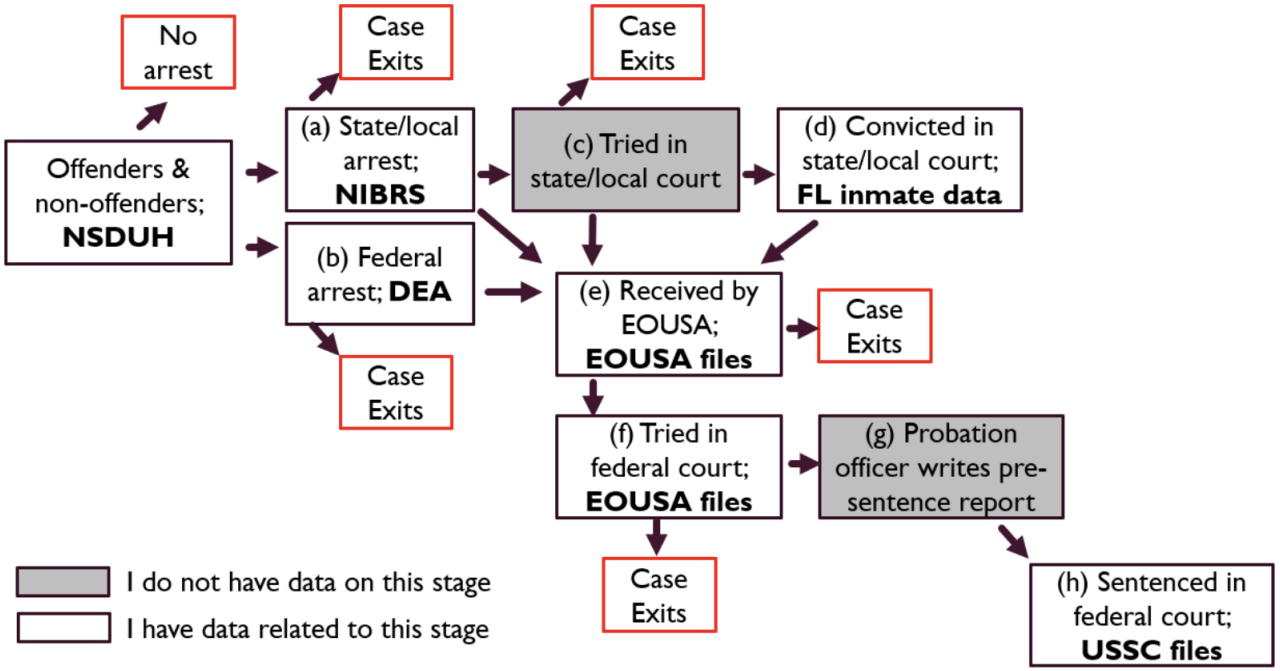
Table A22. Estimating Potential Costs of Bunching and Prosecutorial Discretion by Race

	(1)	(2)	(3)	(4)
Sentencing impact of crossing MM threshold	2 years	2 years	2 years	2 years
Bunching, Black and Hispanic defendants	3.4%	3.4%	3.4%	3.4%
Bunching, White defendants	1.3%	1.3%	1.3%	1.3%
Number of BH cases exposed to sentence increase	13,094	76,437	307,148	770,231
Number of W cases exposed to sentence increase	884	6,513	110,510	314,862
Total cost in sentence-years, Black and Hispanic	890 years	5,197 years	20,886 years	52,376 years
Total cost in sentence-years, White	23 years	169 years	2,873 years	8,186 years
Cost of one-year of incarceration	$60,000	$60,000	$60,000	$60,000
Total cost in $, Black and Hispanic	$53,400,000	$311,820,000	$1,253,160,000	$3,142,560,000
Total cost in $, White	$1,380,000	$10,140,000	$172,380,000	$491,160,000
Assumption on type of cases exposed to similar discretion by race	Crack-cocaine cases, 2011-2015	Crack-cocaine cases, 2000-2015	Federal drug cases, 2000-2015	All Federal cases, 2000-2015

Notes: This table outlines the various assumptions that underpin the cost analysis presented in Section V.E of the paper. In that section, I estimate that bunching at 280-290g increases sentences by approximately 2 years. That increase is applied to 3.4% of Black or Hispanic crack-cocaine offenders from 2011-2015 and 1.3% of white crack-cocaine offenders. This paper argues that the choice to bunch at 280-290g is a use of prosecutor discretion, and column 1 directly calculates the cost of that specific use of discretion, assuming that the cost of an extra year of incarceration is $60,000 (following Donohue 2009 and Mueller-Smith 2014). For black and Hispanic offenders, for example, I multiply $2(\text{sentencing impact}) \times 0.034(\text{share exposed to bunching}) \times 13,094(\text{number of black and Hispanic cases}) \times 60,000(\text{cost of one-year of incarceration}) \approx 53,400,000$While column 1 assumes that the only offenders affected by this racially disparate use of discretion are those crack-cocaine offenders from 2011-2015, columns 2-4 consider broader sets of offenders who may be affected by the same or similar rates of racially disparate discretion. Column 2 assumes that prosecutors exercise similar discretion by race in the pre-2010 period, but only for crack-cocaine offenses. Column 3 assumes that prosecutors exercise similar discretion by race for all federal drug cases from 2000-2015. Finally, column 4 assumes that prosecutors exercise similar discretion by race for all federal (drug and non-drug) cases from 2000-2015. Rows 1-3 use numbers estimated from analyses in the paper; rows 4-5 use data from the USSC; row 6 is the result of multiplying row 1, row 2, and row 4; row 7 is the result of multiplying row 1, row 3, and row 5; row 8 is an estimate of the cost of incarceration from prior work (Donohue 2009, Mueller-Smith 2014); row 9 is the result of multiplying row 6 and row 8; row 10 is the result of multiplying row 7 and row 8; row 11 outlines the types of cases considered to calculate the counts in rows 4-5.

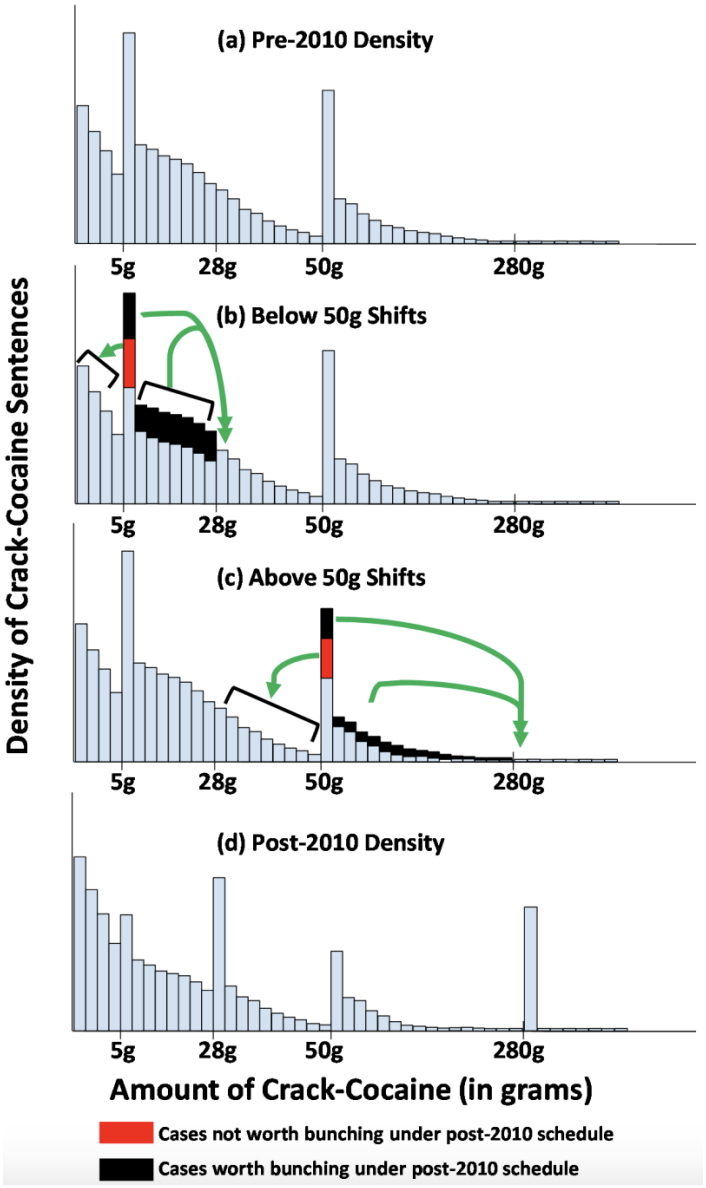
II. Figures

Figure A1. Graphical Illustration of Timeline from Arrest to Sentencing.



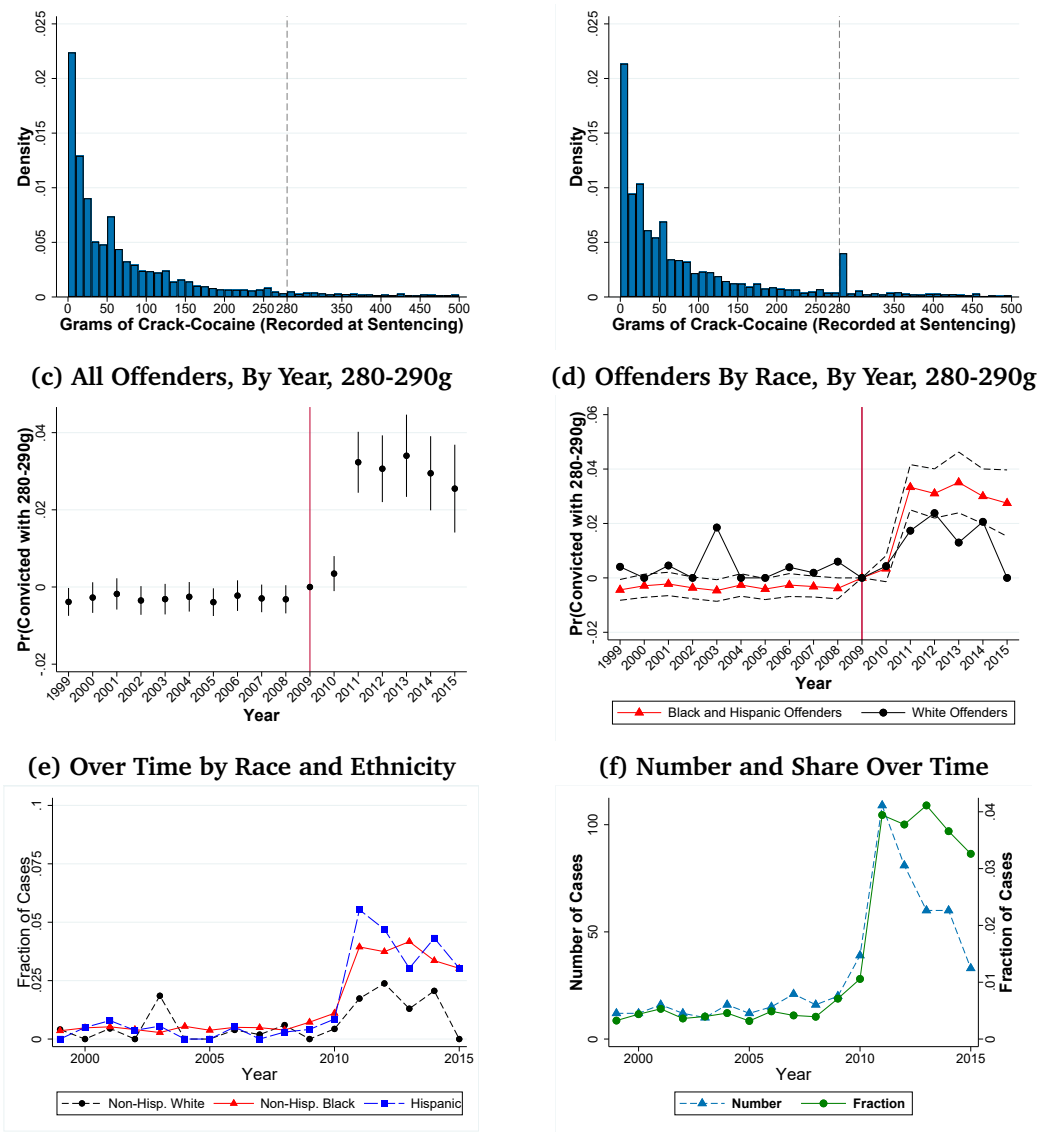
Notes: The figure above details the timeline from arrest to sentencing. Before arrest, the eventual arrestees come from the set of all people, some of whom are innocent and some of whom are guilty. Some individuals from this group are arrested by state/local police or federal agents. Of those arrested by state/local police, their case can be dismissed, prosecuted in state/local court, or passed on to federal authorities. Cases prosecuted in state/local court can leave the system if they are found not guilty, dismissed, etc., they can be convicted, or they can be sent to federal authorities. In fact, even cases convicted in state courts can be sent to federal authorities. Individuals arrested by federal agents are typically referred to the EOUSA directly. Once a case is received by the EOUSA, it can leave the system via a dismissal, declination, etc., or it can be prosecuted in federal court. For cases convicted in federal court, a probation officer prepares a pre-sentence report, and ultimately, the offender is sentenced. I have obtained data at nearly all of these steps. The two steps for which I lack data are in the middle of steps where bunching does not change, which suggests that nothing changes in the middle step. Note, these data sets are not linked, but observing the distributions in each separately is informative about where bunching at 280-290g first occurs.

Figure A2. Graphical Illustration of Conceptual Model, Prosecutor Responses to the FSA.



Notes: Panel (a) displays a hypothetical pre-2010 distribution of weights, with bunching at 5g and 50g due to round-number bias and prosecutor discretion. Panel (b) shows how the 0-5g, 5-28g, and 28-50g ranges will change after 2010. Some cases bunched at 5g will not be worth bunching at 28g (depicted in red), and they will shift into the 0-5g range. Some cases bunched at 5g and some cases from 5-28g will be worth bunching at 28g (depicted in black), and they will shift into the 28-50g range. Panel (c) illustrates a similar phenomena for the 50-280g range–some cases will shift down into the 28-50g range and some will shift up to the 280-290g range. Panel (d) shows the hypothetical post-2010 distribution of weights, with bunching at 5g and 50g due to round-number bias and bunching at 28g and 280g due to prosecutor discretion. **Conceptual model:** Assuming that there are no fixed costs to building a case and that there are no changes in the objective function other than the change in the sentencing schedule, then a prosecutor who chooses not to bunch a case at a mandatory minimum threshold for a sentence X in one period would not bunch the same case at a higher mandatory minimum threshold for a sentence $Y \leq X$ in another period. This means that there will be an increase in the share of cases with weight (w) < 5 post-2010 (increases from cases previously bunched at 5g and 50g); an ambiguous change in the share with $28 > w \geq 5$ (increases from cases previously bunched at 50g and decreases in cases previously bunched at 5g), an increase in the share of cases with $50 > w \geq 28$ (increases from cases previously bunched at 5g and cases previously bunched at 50g); a decrease in the share of cases with $280 > w \geq 50$ (decreases in cases previously bunched at 50g and cases previously charged based on seized evidence > 50), and an increase in the share of cases with $w \geq 280$ (increases from cases previously bunched at 50g and cases previously charged based on seized evidence > 50).

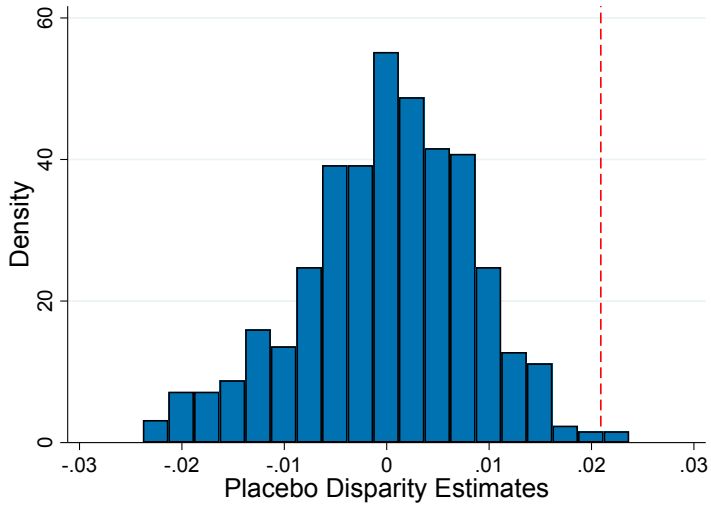
Figure A3. Changing Distribution of Drug Amounts Around 280g Pre- and Post-2010, USSC



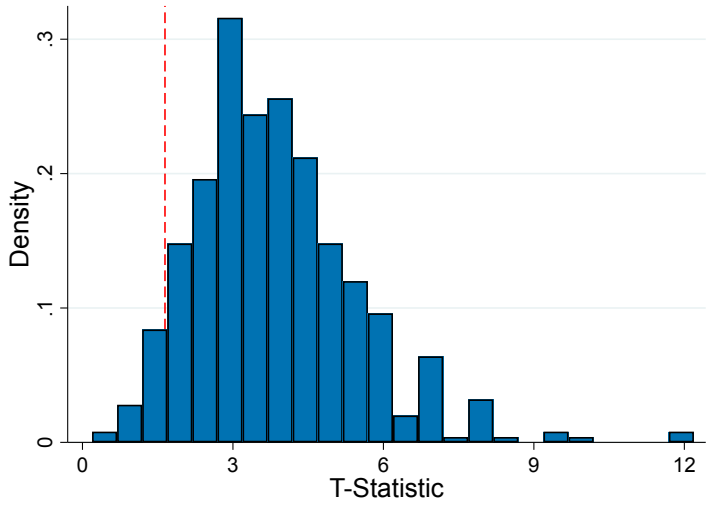
Notes: Panels (a) and (b) plot the distribution of drug amounts recorded in federal crack-cocaine sentences starting at 0 grams and ending at 500 grams for 1999-2010 (when the mandatory minimum threshold was 50g) and 2011-2015 (when it was 280g). In panel (c), I estimate the main bunching coefficient by year (relative to 2010) and plot the coefficients with 90% confidence intervals. Panel (d) plots the coefficients and confidence interval for black and Hispanic offenders and the coefficients for white offenders (I do not include confidence intervals for white offenders because their estimates by year are extremely noisy). Panel (e) plots the fraction of cases bunched at 280-290g for non-Hispanic white offenders, non-Hispanic black offenders and Hispanic offenders. In addition, the sample used in this figure excludes any districts where greater than 20% of cases are missing ethnicity information. In this sample, pr(280-290g) increases by about 4.1 percentage points for Hispanic offenders and about 3 percentage points for non-Hispanic black offenders (p-value=0.14). The Southern District of NY has a large number of cases and many that are missing ethnicity information. Simply excluding that one district implies a 3.8 percentage point increase in pr(280-290g) for Hispanic offenders and a 3 percentage point increase for non-Hispanic black offenders (p-value=0.20). Panel (f) plots the total number of offenses with 280-290g over time and the share (or fraction) of cases with 280-290g over time. These plots are created from the USSC data.

Figure A4. Changing Distribution of Drug Amounts Around 280g Pre- and Post-2010, USSC

(a) Placebo Estimates, Assuming No Disparity

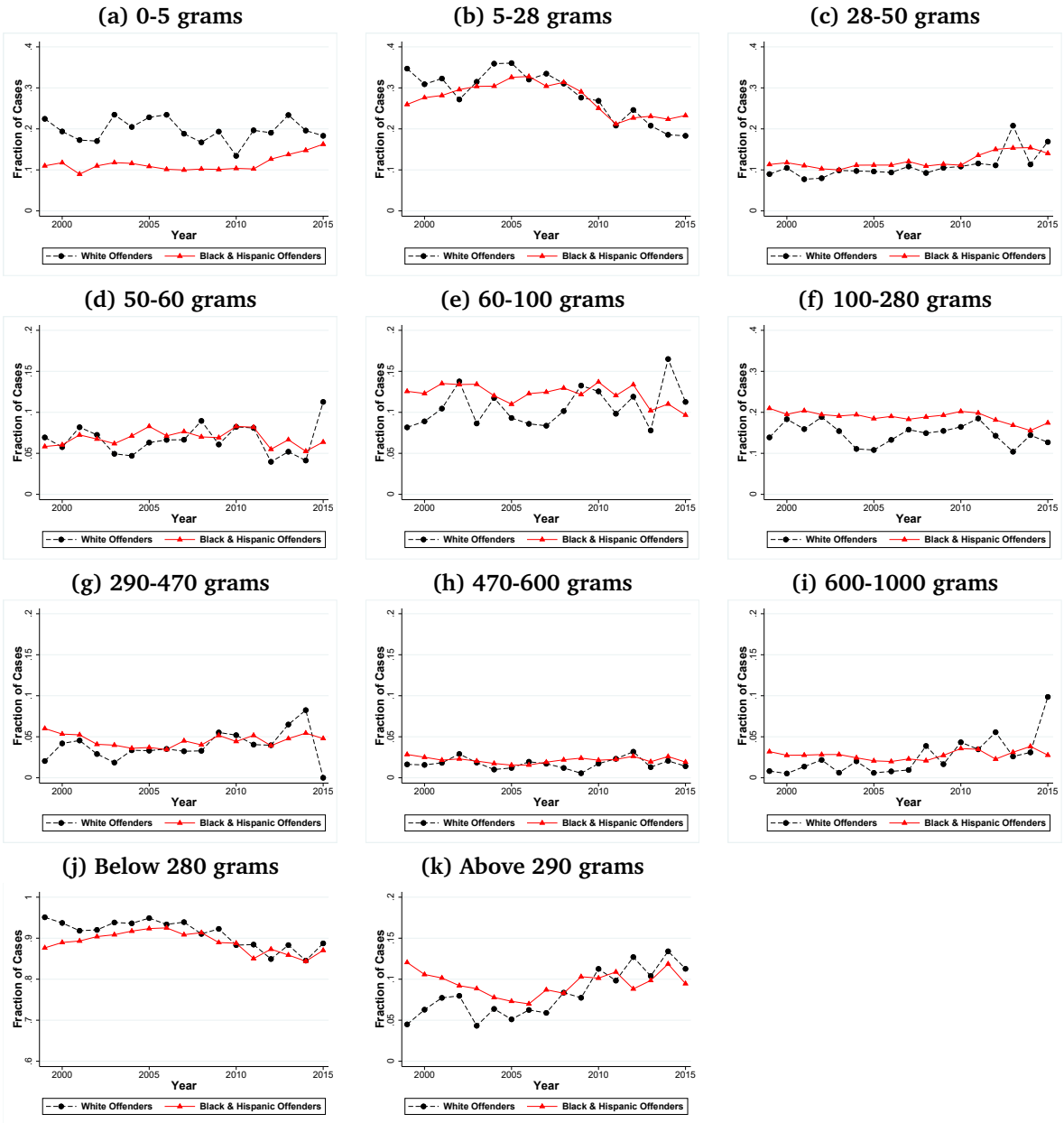


(b) Placebo T-statistics, Assuming Disparity Estimated from Data



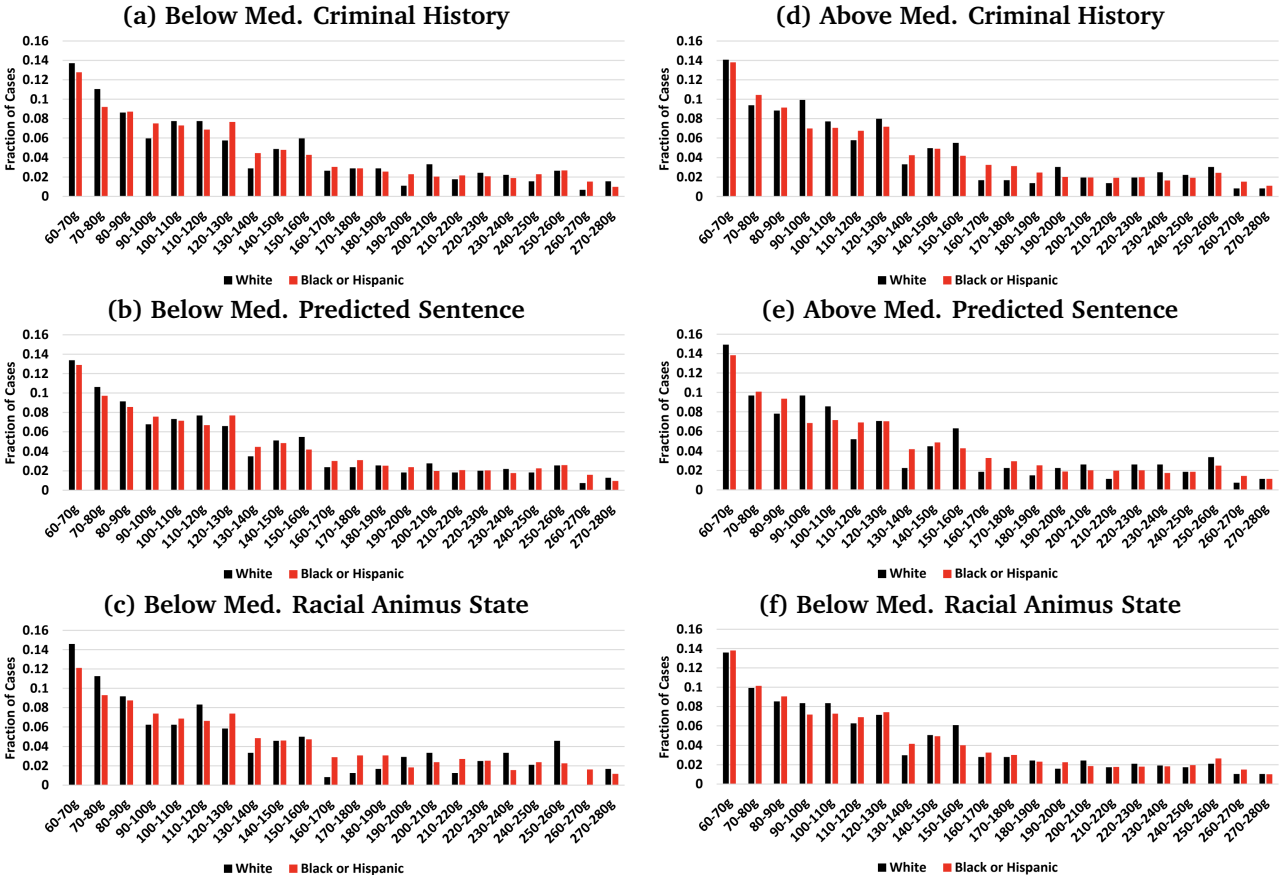
Notes: In panel (a), I plot a histogram of placebo estimates, marking the actual disparity in the data with a dashed red line. Specifically, I randomly assign white offenders to the 280-290g range based on the observed rates for black and Hispanic offenders both pre- and post-2010. Out of 500 placebo assignments, I only estimate a disparity as large (in absolute value) as the actual disparity in six cases. The median of these placebo estimates is 0.0004, the 90th percentile is 0.010, and the true disparity is 0.021. In panel (b), I ask "assuming white defendants in the data are, in fact, 2.1 percentage points less likely to be charged in 280-290g, how often would we classify this disparity as statistically significant at the 10% level?" Specifically, I conduct 500 simulations in which I randomly assign white defendants to the 280-290g range based on their estimated rates in the data pre- and post-2010. Then, I re-estimate the main specification for each replication and save the t-statistic from the estimated disparity. Finally, I plot a histogram of those t-statistics and a dashed red line marking a critical value of 1.645. In 94.6% of replications, the disparity is flagged as significant at the 10% level. The first exercise implies that, assuming the null of no disparity is true, it is very unlikely to detect a disparity as large as the one detected in this data. The second exercise implies that, assuming the disparity in the data is true, it is very unlikely the result would be a false negative. These plots are created from the USSC data.

Figure A5. Changing Distribution of Drug Weights Over Time, By Race, USSC



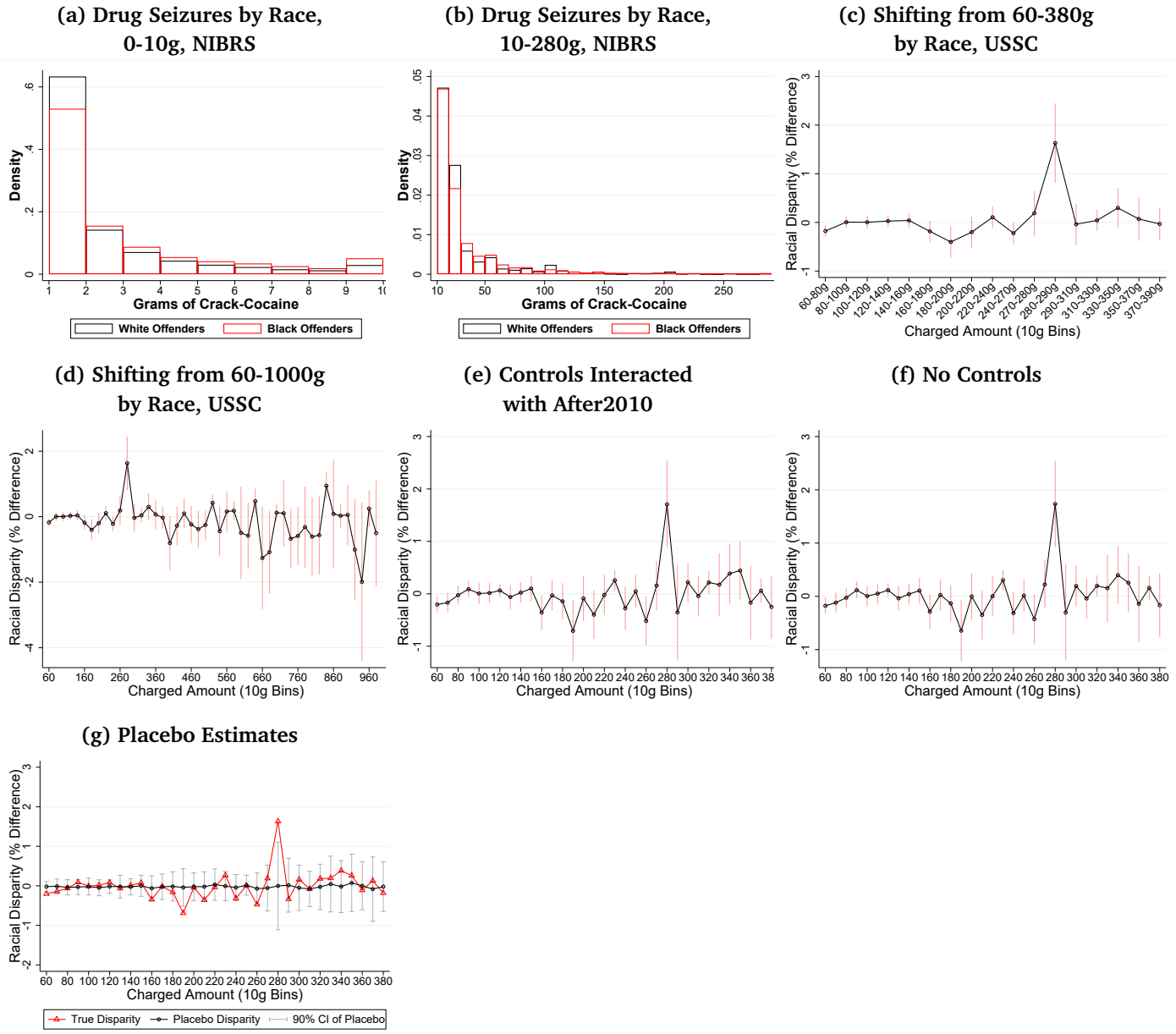
Notes: The figures above plot the share of cases in the specified range by year for white offenders and black and Hispanic offenders. For example, panel (a) plots the share of cases with 0-5g (not including 5g) in each year from 1999-2015. Panel (b) plots the share of cases with 5-28g in each year from 1999-2015, and so on. These plots are created from the USSC data.

Figure A6. Distribution of Pre-2010 Charged Amount by Race, 60-280g, by Characteristics



Notes: The figures above plot the distribution of charged amounts pre-2010 from 60-280g by race for various subsets of offenders. Panel (a) plots the distributions for offenders with below median criminal history scores; panel (d), above median. Panel (b) plots them for offenders with below median predicted sentenced (using exogenous factors, like age, sex, education, etc.); panel (e), above median. Panel (c) plots them for offenders convicted in states with below median levels of racial animus; panel (f), above median. In each plot, the distributions are similar. Kolomogorov-Smirnov tests of the equality of distributions fail to reject the null in all three cases: (a) p-value=0.60; (b) p-value=0.78; (c) p-value=0.45; (d) p-value=0.54; (e) p-value=0.74; (f) p-value=0.98. This shows that the distributions of drugs charged from 60-280g are similar by race even within observably similar groups. These plots are created from the USSC data.

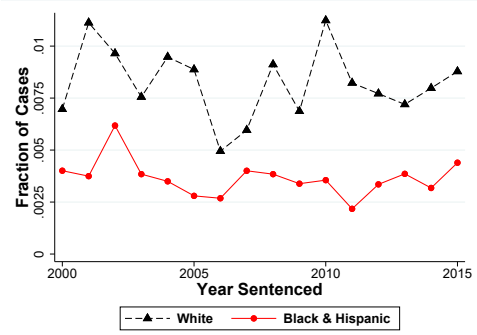
Figure A7. Additional Figures for Conditional Racial Disparity Tests



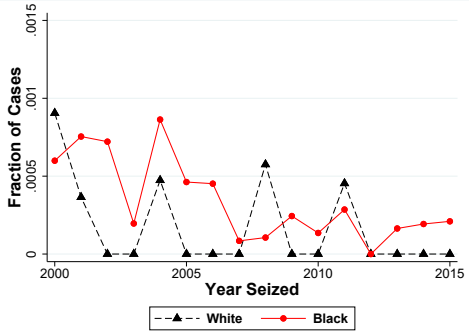
Notes: The figure in panel (a) plots the histograms of crack-cocaine amounts seized for white offenders and for black and Hispanic offenders from 0-10g. The white offenders are slightly over-represented at 1g, but otherwise, the distributions are very similar. The figure in panel (b) plots the histograms by race from 10-280g. White offenders are slightly over-represented at 20-30g, but otherwise, the distributions are very similar. These figures use the balanced sample of agencies (i.e. agencies that are present in all 16 years) in NIBRS. Panels (c) and (d) plot the coefficient δ^X from equation (4) of the main text for each bin starting at X divided by the share of cases in that bin (to calculate a percent difference). Since estimates are noisier at higher amounts, panel (c) shows the estimates for amounts from 60-380g in 20g bins. Panel (d) shows the full range of estimates for amounts from 60-1000g. Panel (e) plots the coefficient δ^X for each 10g bin from a regression that includes the standard controls and includes the interaction of the After2010 binary variable with a binary variable for above median criminal history and a binary variable for above median predicted sentence. This addresses concerns that the racial disparity in movement away from narrow ranges could be due to other differences even within those ranges. Panel (f) plots a similar figure except the estimates are from a regression which excludes controls entirely. Panel (g) plots the racial disparity in each bin from Figure 2b in red and overlays it with a plot of placebo estimates in black and gray. The placebo estimates are calculated from 100 replications in which I randomly assign white offenders to each 10g bin at the same rate as black and Hispanic offenders pre- and post-2010. The black circles plot the average of those placebo estimates and the gray bars plot a 90% confidence interval on those estimates. These plots are created from the USSC data.

Figure A8. Changing Fraction of Cases at Various Stages of Criminal Justice System

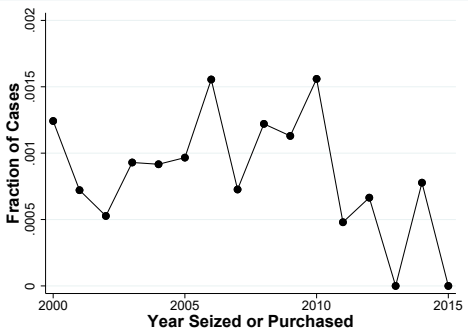
(a) Florida Convictions, By Race, 200-400g



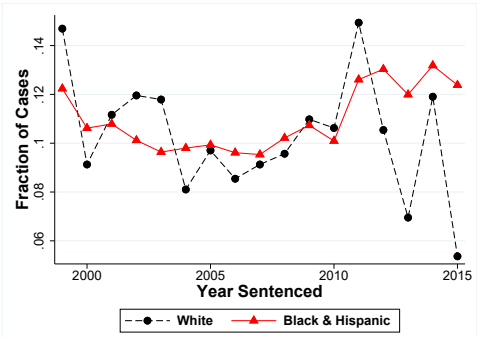
(b) NIBRS Drug Seizures, By Race, 280-290g



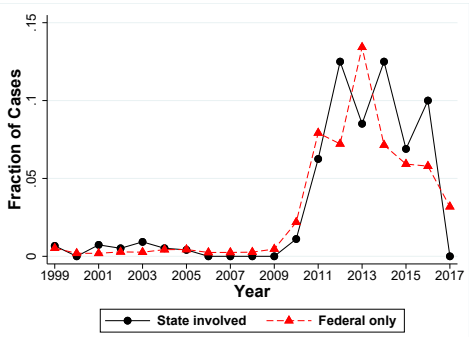
(c) DEA Drug Exhibits, 280-290g



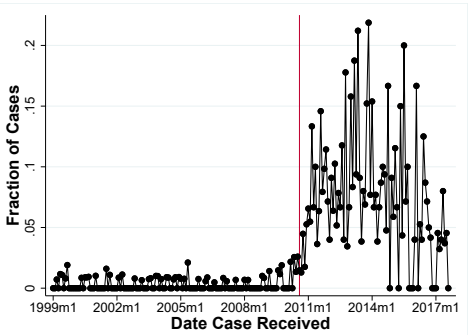
(d) Fraction of Cocaine Cases 200-400g, USSC



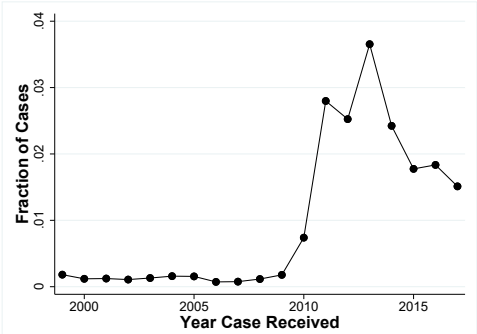
(e) Fraction of Crack-Cocaine Cases in 280-290g, by Type of Source Agency, EOUSA



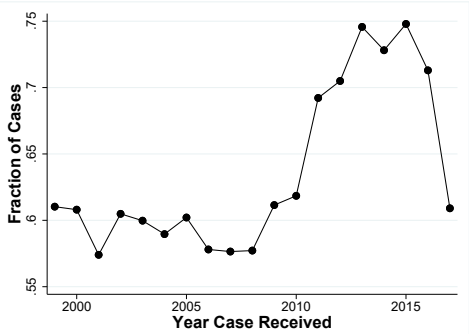
(f) By Month Received by EOUSA



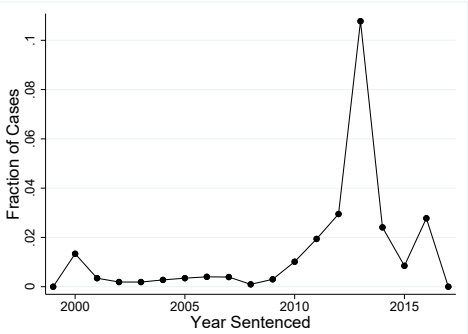
(g) Imputing Missing Weights as (280-290g)=0



(h) Imputing Missing Weights as (280-290g)=1



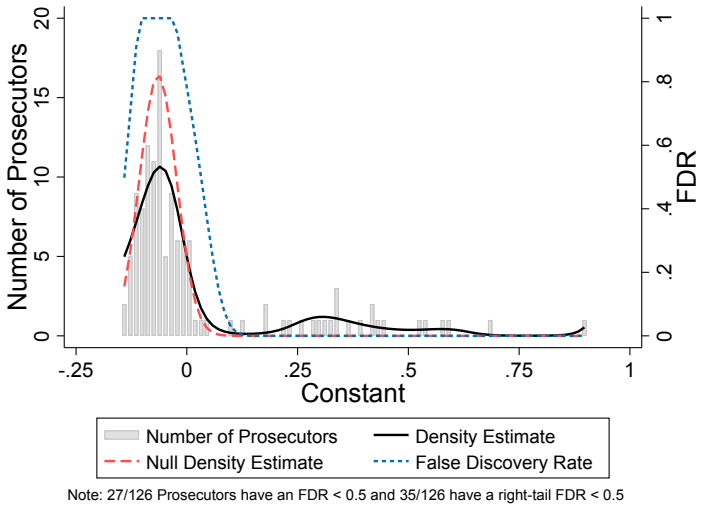
(i) Cases Received Before FSA



Notes: Panel (a) plots the fraction of cocaine offenses that have a range from 200-400g in FL state prison from 2000-2015, by race. Panel (b) plots the fraction of crack-cocaine drug seizures made by local police departments and recorded as 280-290g from 2000-2015, by race. Panel (c) plots the fraction of cocaine drug exhibits sent to DEA laboratories and recorded as 280-290g from 2000-2015 (the DEA data does not include race). Panel (d) plots the fraction of cocaine offenses with 200-400g in the USSC federal sentencing data, by race. Panel (e) plots the share of cases sent to EOUSA attorneys from sources that involve state agencies (red dashed line with triangle markers) and the share of cases sent to EOUSA attorneys from strictly Federal sources (black solid line with circle markers). This figure is limited to the top agencies sending cases and excludes joint investigations (e.g. FBI + state/local task force). The top agencies are: DEA, FBI, ATF, and state/local. Panel (f) plots the fraction of cases with 280-290g (excluding cases with missing drug weights) by the month the case was received. The vertical red line indicates the date the Fair Sentencing Act was passed. In panel (g), I re-code the 280-290g dummy variable equal to zero if the drug weight is missing (typically, I leave the dummy variable missing if the drug weight is missing). In panel (h), I do the opposite, coding the 280-290g dummy variable equal to one if the drug weight is missing. Panel (i) plots the fraction of cases with 280-290g in each year for cases that are received by the EOUSA prior to the signing of the Fair Sentencing Act, showing more direct evidence that the bunching at 280-290g is driven by prosecutor decisions. Panel (a) is created from the FL inmate database, panel (b) is created from NIBRS, panel (c) is created from DEA STRIDE, panel (d) is created from the USSC data, and panels (e)-(i) are created from the EOUSA data.

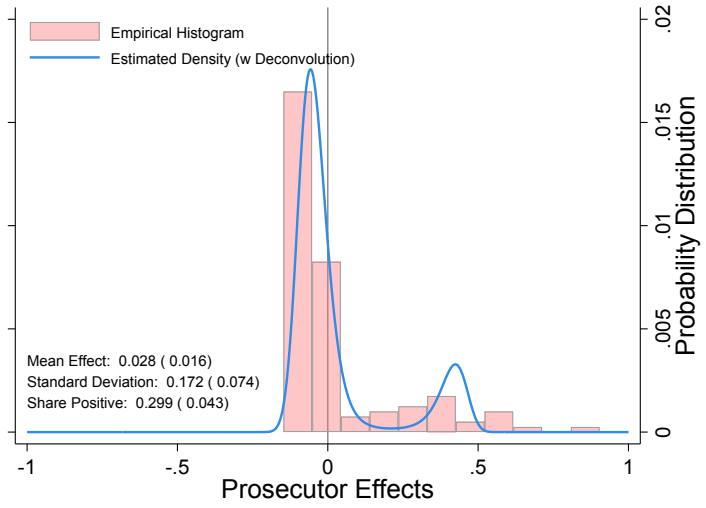
Figure A9. Alternative Approaches to Quantifying Share of Bunching Prosecutors

(a) False Discovery Rate for Individual Prosecutors



Note: 27/126 Prosecutors have an FDR < 0.5 and 35/126 have a right-tail FDR < 0.5

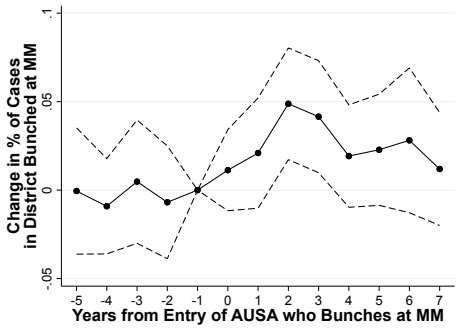
(b) Bayesian Deconvolution of Individual Prosecutor Effects



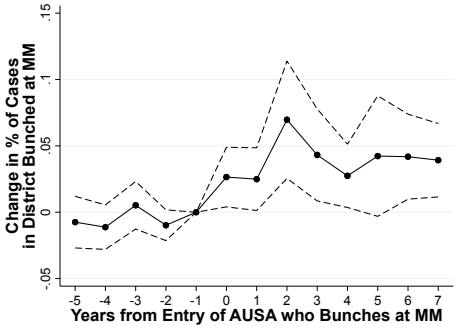
Notes: Panel (a) implements a version of the outlier detection procedure from Ridgeway and Macdonald (2009), largely following Hoekstra and Sloan (2022). Specifically, I restrict the sample to prosecutors with 10+ cases post-2010 and regress the 280-290g indicator on a rich set of case characteristics: year fixed effects, case priority fixed effects (i.e., binary indicators case being a district priority, national priority, both national and district priority, and neither priority), and binary controls for case complexity (i.e., binary indicators for multiple law enforcement agencies, gang involvement, multiple opposing counsel, multiple recorded court events, and a privately retained opposing counsel). I then regress the residuals from this model on a set of prosecutor fixed effects. I use these estimated prosecutor effects to fit an empirical null distribution, to estimate the actual density, and calculate false discovery rates. Following Ridgeway and Macdonald (2009) and Hoekstra and Sloan (2022), I flag a prosecutor as an "outlier" if their false discovery rate is less than 0.5. Under this approach, approximately 21% of prosecutors are flagged as having a rate of bunching that is more extreme than that of the benchmark case. Given the primary interest in this paper is identifying prosecutors that engage in bunching, I also use right-tail false discovery rates. Under this approach, approximately 28% of prosecutors are flagged as having a rate of bunching that is more extreme than that of the benchmark case. Panel (b) employs a discretized empirical Bayes deconvolution procedure following Goncalves and Mello (2021). After accounting for case-level observables as described above, I estimate the true distribution of prosecutor effects via maximum likelihood, incorporating the standard errors of the estimated effects to account for noise. This approach suggests that approximately 30% (SE=0.043) of prosecutors engage in bunching at 280-290g, after accounting for estimation error in the prosecutor effects. These plots are created from the EOUSA data.

Figure A10. Additional Evidence of Prosecutorial Discretion in Bunching, Movers Results, EOUSA

(a) Effect of Entry of a Bunching AUSA



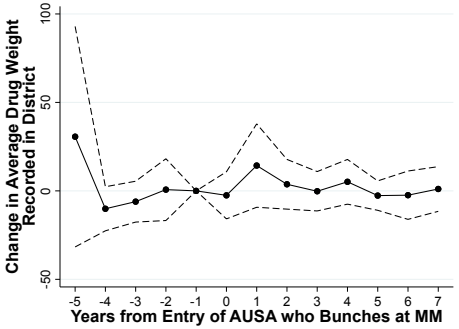
(b) Effect of Entry of a Bunching AUSA, Low-Bunching Districts



(c) Effect of Exit of a Bunching AUSA

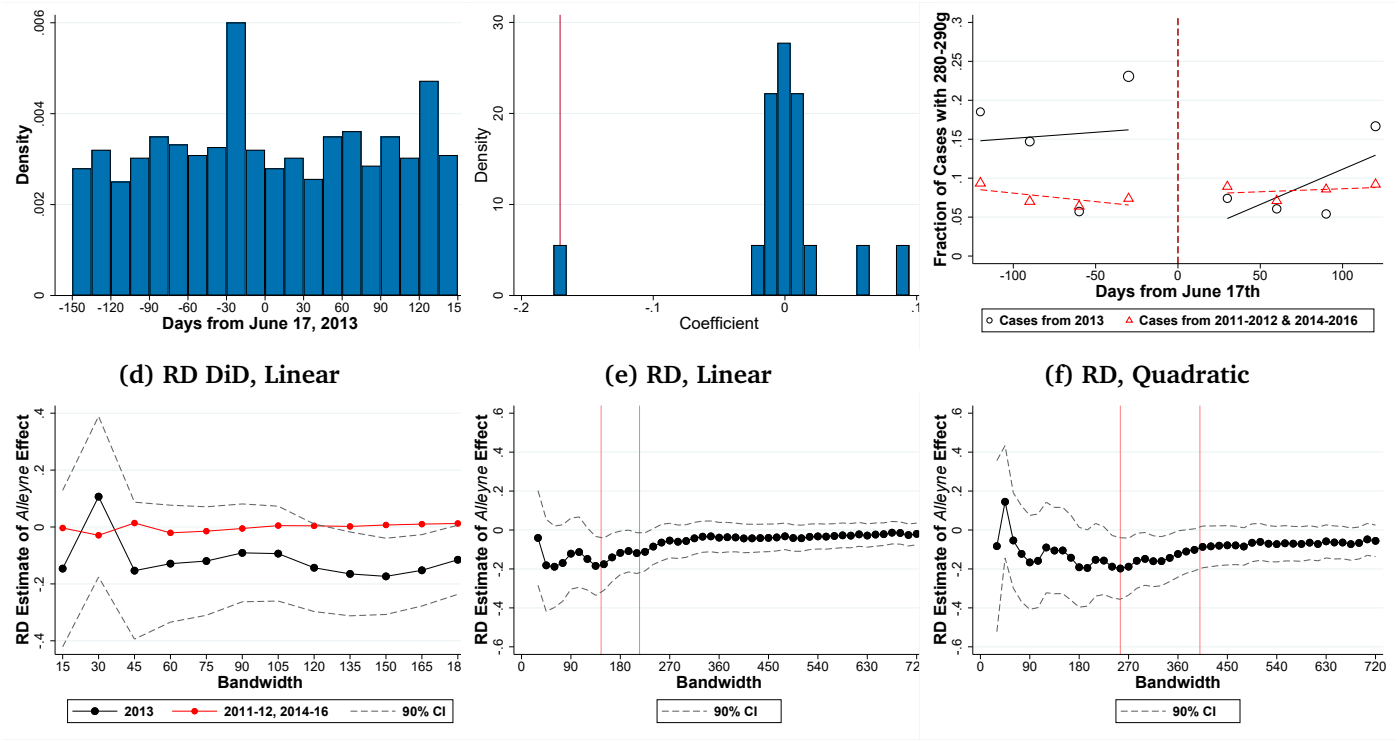
(d) Drug Weight

(e) Drug Weight, Low-Bunching Districts



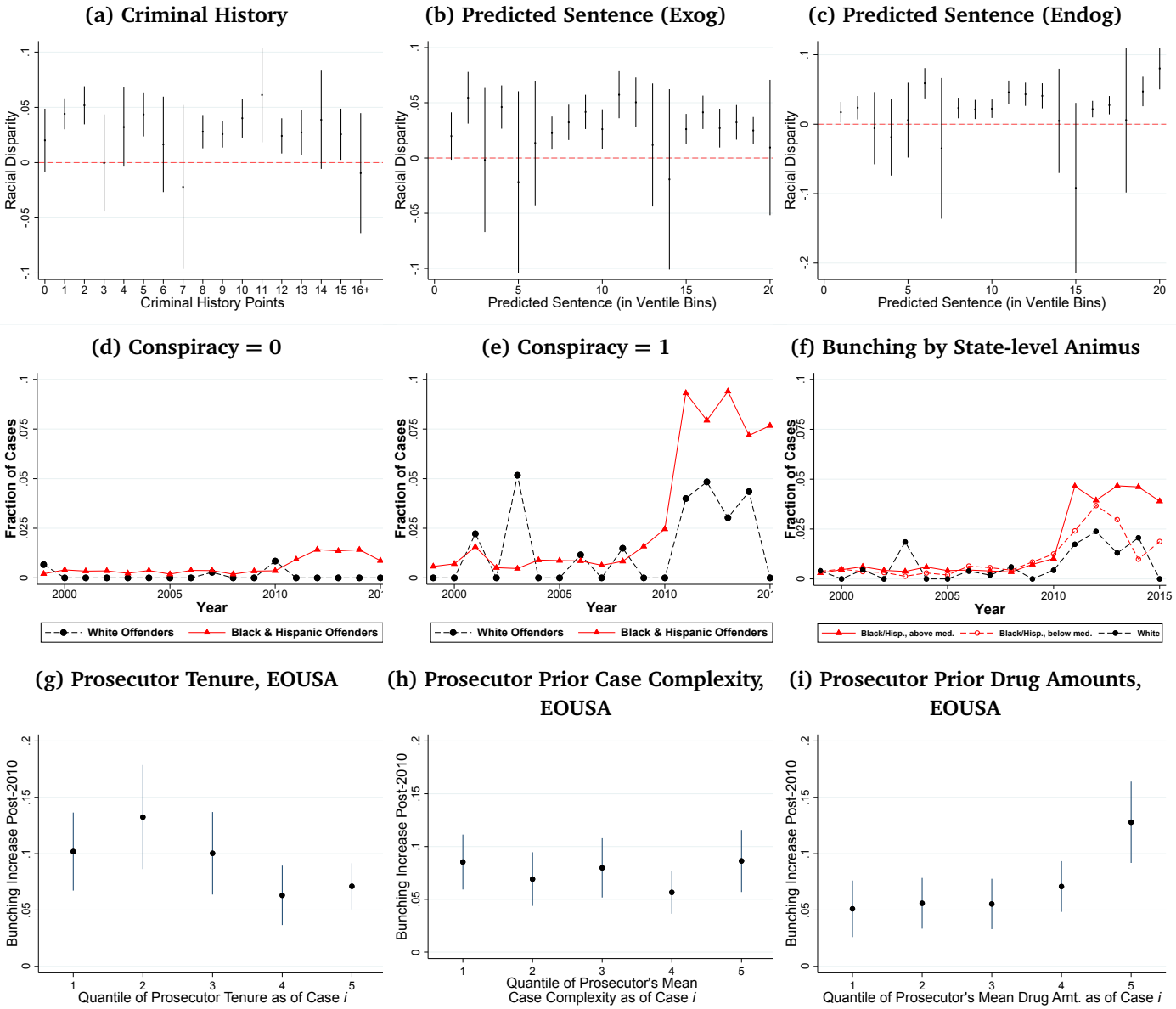
Notes: Panels (a) and (b) plot the change in the percent of cases that are bunched at the mandatory minimum (MM) threshold (50g pre-2010 and 280g post-2010) after a "bunching" prosecutor enters a district. For these figures, I identify prosecutors who switch districts, who bunch at the MM threshold in their first district, and who have 5 or more cases in their first district. I then identify the districts that they switch into and analyze the fraction of cases bunched at the MM for all other prosecutors in that district. Panel (a) shows that prior to entry of a bunching prosecutor, district-level bunching does not change year-to-year, but that immediately after the bunching prosecutor enters, other prosecutors in that district increase their fraction of cases bunched at the threshold. Panel (b) shows that this increase is driven by districts that have low-levels of bunching (below the median for all districts) prior to the entry of the bunching prosecutor. Panel (c) plots the bunching activity for the districts from which these prosecutors are leaving. This analysis is limited to the first bunching attorney from panels (a) and (b) that leaves the district. There is not a decrease in the prevalence of bunching after bunching prosecutors exit a district. This suggests bunching at the mandatory minimum threshold is not related to a temporary behavior shift, such as increased competition among attorneys, but that it may be related to something more permanent, such as learning about techniques or developing beliefs/norms. Since these figures rely on prosecutors who move from one district to another and require reasonably long pre- and post-periods, I use data from 1994-2016 and identify the first moving attorney for post-1999 years only (insuring a 5-year pre-period for every district). In practice, this means the figures above are largely based on bunching at 50-60g (the pre-2010 MM). Restricting to post-2010 moves does not yield a large enough sample of movers with sufficient cases to classify them as bunching versus non-bunching. Also, since these figures involve cross-district analysis and missingness varies across districts, I impute missing weights as zero instead of excluding them from the analysis. The results are robust but noisier when excluding missing weights (the post-period increase is 0.029, p-value=.18 for all districts and is 0.098, p-value=0.002 for low-bunching districts.). Panels (d) and (e) plot the change in average drug weights recorded after a "bunching" prosecutor enters a district. One concern with panels (a)-(c) is that bunching prosecutors may be brought into a new district because the composition of cases that district receives is changing. However, both panels show that drug weights, on average, are not increasing before or after the prosecutor enters the district. The dashed lines in panels (a)-(e) are 90% confidence intervals. These plots are created from the EOUSA data.

Figure A11. RD Validity Tests and Robustness of *Alleyne v. US* Result to Choice of Bandwidth and Polynomial, EOUSA



Notes: Panel (a) plots the density of cases around the June 17, 2013 (centered at zero) and grouped into 15-day bins. June 17, 2013 is the day *Alleyne v. US* was decided. Outside of the large number of cases from -30 to -15 days before *Alleyne* was decided, the density is relatively smooth through that date. Panel (b) plots a histogram of the estimated discontinuity around June 17 in all years from 1999-2016. The estimates are centered at zero and the coefficient in June 2013 (marked by the red line) is twice as large as the next largest estimate of any sign and over 4 times larger than the next largest negative estimate. These plots are created from the EOUSA data. Panel (c) plots the fraction of cases with 280-290g in each 30-day bin for 120 days before and 120 days after June 17th. The black circles show the fraction of cases in each bin for 2013 and the red triangles show the average fraction of cases in each bin for 2011-2012 and 2014-2016. The solid black and the dashed red lines depict linear fits. The scatter plot symbols are weighted by the total number of cases in each bin. The estimated discontinuity is $\delta = -0.1433$ and $se = 0.0935$. Panels (d)-(g) display estimates across many different bandwidth choices (i.e. the number of days before and after June 17) and different polynomial choices (i.e. the polynomial of the running variable, number of days from June 17). Panel (d) displays estimates from the RD difference-in-differences regression for bandwidths from 15-180. Since the difference-in-difference estimates use multiple years, bandwidths above 160 days are asymmetric. The black line in panel (d) displays the estimates from 2013, the red line displays the estimates from all other years after 2010 (when nothing in particular happened around June 17). Panels (e)-(g) estimate a typical RD regression (i.e. not using variation around June 17 in other years). This allows me to extend the bandwidth to 2 years before and after *Alleyne v. US*. In these panels, the first red line denotes the CER-optimal bandwidth and the second red line denotes the MSE-optimal bandwidth (Calonico et al. 2017). In panel (e), for example, the estimate approaches zero at larger bandwidths–this is to be expected. As we get further from the cutoff, the linear polynomial becomes an increasingly bad fit. In both panels, the optimal bandwidths yield estimates that are statistically different from zero (or marginally statistically significant). These plots are created from the EOUSA data.

Figure A12. Bunching by Criminal History, Predicted Sentence, Conspiracy Charges, and Racial Animus, USSC



Notes: Panel (a) estimates the racial disparity within criminal history score, grouping scores of 16+ together. Panel (b) estimates the racial disparity within ventiles of predicted sentence (based on exogenous factors: criminal history score, sex, citizenship status, age, number of dependents, education, and district). Panel (c) estimates the racial disparity within ventiles of predicted sentence (based on exogenous and endogenous factors: the factors listed for panel (b) plus number of current counts, statutes involved in the case, whether there was only one drug involved, whether crack-cocaine is the primary drug, and whether the career offender, aggravated role, or violent offender enhancements were applied). Panels (d)-(e) display the fraction of cases recorded with 280-290g in each year by race for cases that do not have a "conspiracy" charge and those that do, respectively. Panel (f) displays the fraction of cases recorded with 280-290g in each year for black and Hispanic offenders convicted in states with above median levels of racial animus; those convicted in states with below median levels of racial animus; and white offenders. Panel (g) estimates the relationship between prosecutor tenure and bunching post-2010. Tenure for case $i$is measured as the difference between the year case $i$is filed and the first year a prosecutor has any crack-cocaine case filed in the EOUSA data. The increase in bunching post-2010 is similar for prosecutors in the bottom three quantiles of the tenure distribution, which capture prosecutors with 0 to 6 years of experience. Panel (h) estimates the relationship between the complexity of the prosecutor's prior cases and bunching post-2010. Complexity of prior cases for a prosecutor on case $i$is measured based on all crack-cocaine cases seen before case i.I construct an index of complexity by: (1) regressing drug weight on district fixed effects, year fixed effects, case priority fixed effects (i.e., district priority, national priority, both district and national priority, or neither), binary indicators for the involvement of multiple law enforcement agencies, any gang involvement, more than one opposing counsel, more than one recorded court event, and privately retained counsel, (2) predicting weight in each case based on these factors, and (3) constructing a running mean of predicted weight, such that prosecutors with a higher mean at the time of case i have seen more complex cases in the lead-up to case i.Panel (h) shows that this measure is unrelated to bunching: prosecutors in the first quantile of prior case complexity (mean $\widehat{\text{weight}} = 9.7$g) and prosecutors in the fifth quantile of prior case complexity (mean $\widehat{\text{weight}} = 115.7$g) bunch at similar rates post-2010. Panel (i) estimates the relationship between the mean weight of the prosecutor's prior cases and bunching post-2010. Mean weight for a prosecutor on case $i$is measured based on all crack-cocaine cases seen before case i. Panel (i) shows that this measure is mostly unrelated to bunching post-2010: prosecutors in the first quantile of prior weight (mean weight = 12.2g) and prosecutors in the fourth quantile of prior weight (mean weight = 91.9g) bunch at 280-290g at similar rates post-2010. Prosecutors in the fifth quantile of prior weight (mean weight = 249.9g) are much more likely to bunch at 280-290g.