final minutes

Criminal Justice Policy Commission Meeting
9:00 a.m. • Wednesday, June 6, 2018
Harry T. Gast Appropriations Room • 3rd Floor State Capitol Building
100 N. Capitol Avenue • Lansing, MI

Members Present:
Senator Bruce Caswell, Chair
Senator Patrick Colbeck
D.J. Hilson
Kyle Kaminski
Sheryl Kubiak
Barbara Levine
Sarah Lightner
Sheriff Lawrence Stelma
Jennifer Strange
Judge Paul Stutesman
Andrew Verheek
Judge Raymond Voet

Members Excused:
Representative Vanessa Guerra
Laura Moody
Representative Jim Runestad

I. Call to Order and Roll Call
The Chair called the meeting to order at 9:00 a.m. and asked the clerk to take the roll. A quorum was present, and absent members were excused.

II. Approval of May 2, 2018 CJPC Meeting Minutes
The Chair asked members if there were any corrections to the proposed May 2, 2018 CJPC meeting minutes. There were none. **Commissioner Verheek moved, supported by Judge Voet, to approve the minutes of the May 2, 2018 CJPC meeting as proposed. There was no further discussion. The minutes were approved by unanimous consent.**

III. Data Subcommittee Update
The Chair called on Grady Bridges for an update. Mr. Bridges proceeded with an update on some of the concerns expressed at the last CJPC meeting and noted that today's topic will focus on Research Question #2 that deals with disparities in the rate of prison sentences. See the attached 6/6/18 handout for more details. Mr. Bridges noted that the department has provided 2017 BRR data and it is now included in the Commission's dataset. Questions regarding race/ethnicity and rural/urban county classifications were raised and discussed. Mr. Bridges highlighted the process used to help identify Hispanics in the dataset. He cautioned that it is not a perfect measure, but better than no measure and he will be sure to clearly point out the limitations of the data in the Commission's report. Questions regarding the designation of some Upper Peninsula counties as "urban" were raised. A discussion followed and Commissioner Levine requested a map be prepared in which only county population is used. Commissioner Kubiak offered a solution may be to use designations like the ones used by the Michigan Sheriff's Association where jails are categorized as rural, urban, or metropolitan. She noted this is an established criminal justice standard that is tied to not only population, but also the number of jail beds. Mr. Bridges will explore these options and refine the data by the next meeting. Mr. Bridges then presented the early results of the model sample analysis (found in Table 3 of his handout). He noted that the table shows how the data breaks down along the different variables that are incorporated into the model. Commissioner Kubiak suggested that drug abuse and alcohol abuse be combined into one variable instead of two. Mr. Bridges continued with an explanation of the difference between percent point and percentage change used in the analysis and presented some examples of the relevant findings from the preliminary results. A discussion of the likelihood of a prison sentence for a typical offender by crime group, conviction method, attorney status, gender, and race followed.

The Chair shared that the National Association of Sentencing Commissions is having a conference from August 13-15, 2018 in Columbus, Ohio. Additional information will be sent to the members. He asked Commission members to let Susan Cavanagh know if they are interested in attending the conference by Friday.

After a short break, Mr. Bridges continued presenting his preliminary findings and results and ended with an explanation of some of the information found in the appendix and an overview of the next steps. Commissioner

Levine asked if one or two of MDOC's prior analysis of straddle cells reports could be shared. Commissioner Kaminski will send the report to Grady or the clerk for distribution. The Chair asked Commission members to think about other ways of looking at the data and to send any suggestions to Susie within the next two weeks so that Grady can begin working on it.

IV. Mental Health Subcommittee Update

No update was reported.

V. Commissioner Comments

The Chair noted that it will be important that the Commission clearly explain that the results are for only one grid. Commissioner Stelma commended Grady on his presentation. Commissioner Kubiak suggested including another grid if there is time. She also commented that the Commission may want to think about the variables descriptions raised by Sheriff Stelma and possibly use them as descriptive variables in a table. Judge Stutesman inquired about whether the changes discussed today will impact the numbers as he hopes to provide input as requested by the Chair. Commissioner Levine is open to adding additional grids to the extent that they are straddle cell grids, but it is the scope of the decision being made that should be emphasized. There were no additional comments from the Commissioners.

VI. Public Comments

The Chair asked if there were any public comments. Mr. Hakeem Hasan, Legal Intern with the House Republican Policy Office, was present and asked that a copy of Mr. Bridges' presentation be emailed to him. Mr. Bridges will email the document to him as requested. The Chair asked Mr. Hasan to remember that the document is only a draft and not the final product. There were no other public comments.

VII. Next CJPC Meeting Date

The next CJPC meeting is scheduled for **Wednesday, July 11, 2018, at 9:00 a.m. in the Harry T. Gast Appropriations Room, 3rd Floor of the State Capitol Building.** The Chair announced that the August, September, and October meeting may have a different meeting room location.

VIII. Adjournment

There was no further business. The Chair adjourned the meeting at 11:37 a.m.

(Minutes approved at the July 11, 2018 CJPC meeting.)

Criminal Justice Policy Commission
Straddle Cell Sentencing Pilot Study
- Discussion of Preliminary Results -

1. Study Goals:

Using data made available by the Michigan Department of Corrections our analysis seeks to provide answers to the following questions:

Research Question 1: To what extent are prison sentences, relative to intermediate sanctions, imposed on those who score in straddle cells on the D -Grid?

Research Question 2: For offenders with similar offense and offender characteristics, are there disparities in the rate of prison sentences? If so, what factors or characteristics are contributing to such disparities?

Research Question 3: Does the recidivism rate for those receiving a prison sentences differ significantly from those receiving intermediate sanctions?

2. Data Collection

The MDOC provided the commission with two datasets containing felony sentencing information from Jan. 1st, 2012 through **Dec. 31st, 2017[1]:**

A. BIR DEM contains demographic data associated with the sentencing event. There will be one record for each sentencing event (combinations of offender, sentence date, and sentencing county).

B. BIR OFF the offense portion associated with the sentencing event. There could be multiple offense records for each sentencing event each potentially with their own sentencing guidelines and sentences.

3. Scope of Analysis

As discussed by the commission, the analysis in this study will focus on individuals sentenced between Jan. 1st, 2012 and Dec. 31st, 2017 and score within a straddle cell for Class D felony offenses. Furthermore, habitual offenders and those with special statuses[2] will be excluded while considering the initial sentencing decision.

[1] Following the May commission meeting, updated BIR datasets for 2017 were made available by the MDOC.
[2] Status at Offense variables include: HYTA, Probation, District Court Probation, Delay of Sentence, Parole, Jail, State Prisoner, Bond, Juvenile Court Supervision, Federal Probation, Federal Parole

4. Recoding Race/Ethnicity

Problem: Historically, the MDOC coded each offender's race into one of six categories:

(1) American Indian or Alaskan Native
(2) Asian
(3) Black or African American,
(4) Native Hawaiian or Other Pacific Island
(5) White
(6) Unknown

Noticeably absent from these categories, and the data more broadly, is any measure of Hispanic ethnicity.

Potential Solution: Following the decennial census, the U.S. Census Bureau creates a list of the most common surnames reported[3]. In addition to the number of times each name was reported, the list includes basic demographic information, such as the percent of individuals who identified as Hispanic or Latino. For example, the most common surname, SMITH, was reported 2,442,977 times with 2.4% of those individuals identifying as Hispanic or Latino. Merging the MDOC and census data, we can identify the percent of people with the offender's last name that identified as Latino of Hispanic. For a given percent threshold we can then infer Hispanic ethnicity for each offender (e.g. Hispanic = 1 for all surnames with 50% or more identifying as Hispanic).

Results: Of the 245,389 offenders in the BIRDEM dataset, 226,494 (92.3%) matched exactly with a name in the census dataset and 18,895 (7.7%) did not match.

Table 1: Hispanic Ethnicity

Hispanic or Latino	BIRDEM Obs.	BIRDEM Percent	Full Dataset Obs.	Full Dataset Percent	D-Grid Subset* Obs.	D-Grid Subset* Percent
Yes	9,896	4.03%	14,418	3.88%	247	3.15%
No	219,886	89.61%	332,594	89.59%	7,214	91.90%
Unknown	15,607	6.36%	24,235	6.53%	389	4.96%
Total	***245,389***		***371,247***		***7,850***	

* Subset Sample includes non-habitual offenders scoring in straddle cells within the D Grid.

[3] The dataset available at https://www.census.gov/topics/population/genealogy/data/2010_surnames.html contains a list of all surnames reported 100 or more times for the 2010 census. The list includes 162,253 surnames which represent 265,667,228 people. Additionally, one row indicating "All Other Names" accounts for 29,312,001 individuals.

Accounting for unmatched offender surnames:

(1) Rare/Unique Names: One explanation for unmatched surnames is that they are rare/unique names (i.e., reported less than 100 times in the 2010 census). The census aggregates these rarely reported surnames into "All Other Names", so we wouldn't expect the BIRDEM data to find a match. Rare names account for 11% of the responses overall in the census data, therefor our 7.7% unmatched rate is better than expected.

(2) Hyphenated Names: Another possible explanation is that individuals have hyphenated surnames. Of the 18,895 unmatched surnames, 3,065 (16.22%) contain a hyphen.

5. Rural and Urban County Designations

An additional demographic variable was constructed to indicate whether the sentencing county was considered rural or urban. Population data from the U.S. Census Bureau[4] was used to classify each county as either mostly urban, mostly rural, or completely rural based on the percentage of the population living in rural areas[5]. Following the census bureau's convention, counties with less than 50 percent of the population living in rural areas are classified as mostly urban; 50 to 99.9 percent are classified as mostly rural; 100 percent rural are classified as completely rural.

Table 2: Rural/Urban County Classification

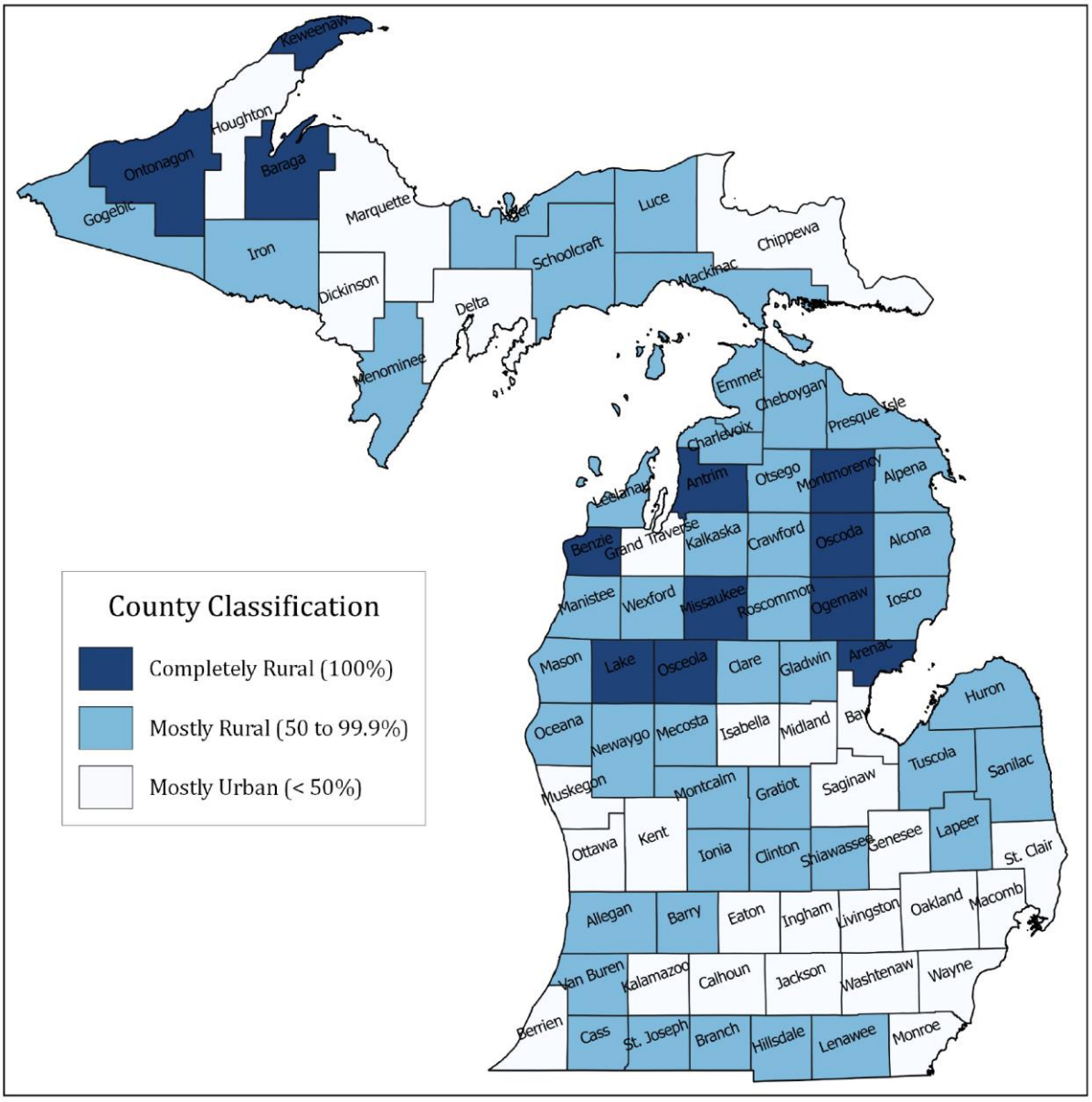
Classification	Freq.	Percent
Mostly Urban (< 50%)	27	32.53
Mostly Rural (50 to 99.9%)	44	53.01
Completely Rural (100%)	12	14.46
Total	83	100

[4] The dataset provides the percentage of the county population living in rural areas as of the 2010 Census. Available at: http://www2.census.gov/geo/docs/reference/ua/County_Rural_Lookup.xlsx

[5] For more information on how the U.S. Census Bureau determines the rural population for each county please see their brief: http://www2.census.gov/geo/pdfs/reference/ua/Defining_Rural.pdf

U.S. Census Bureau Urban/Rural Classification

Figure 1: Counties by Urban/Rural Classification



U.S. Census Bureau Urban/Rural Classification

Figure 2: Percentage of County Population Living in Rural Areas

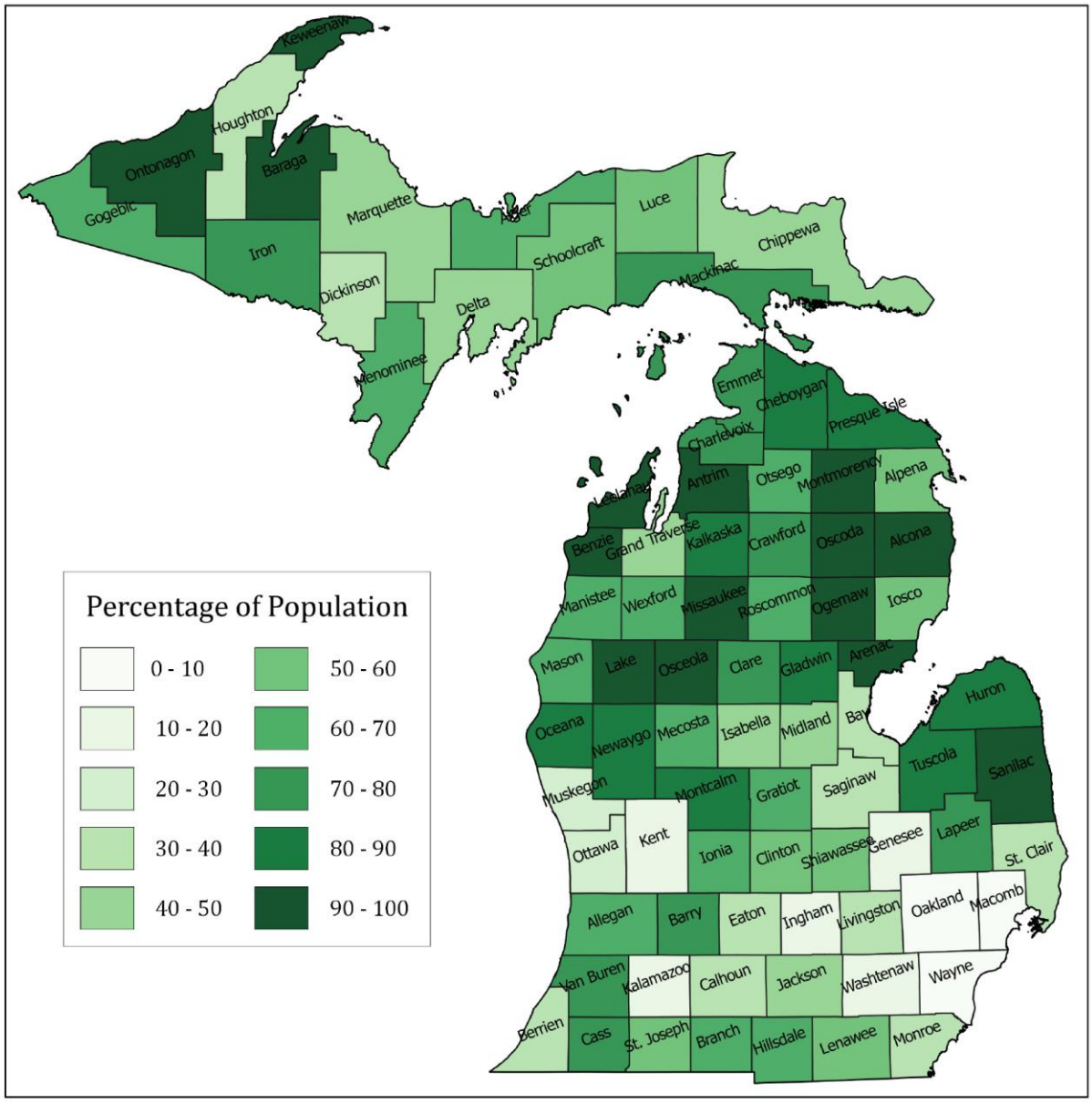


Table 3: Summary Statistics for Model Sample[6]

Variable	Obs.	Percent	Variable	Obs.	Percent
Cell (PRV, OVL)	**5,479**		**Urban or Rural County**	**5,479**	
A, VI	152	2.77%	Mostly Urban (< 50%)	4,149	75.73%
A, V	292	5.33%	Mostly Rural (50 to 99.9%)	1,235	22.54%
B, V	126	2.30%	Completely Rural (100%)	95	17.30%
B, IV	174	3.18%	**Gender**	**5,479**	
C, IV	428	7.81%	Female	575	10.49%
C, III	485	8.85%	Male	4,904	89.51%
D, III	282	5.15%	**Race**	**5,443**	
D, II	1,122	20.48%	American Indian or Alaskan Native	47	0.86%
E. II	521	9.51%	Asian	17	0.31%
E, I	1,061	19.36%	Black or African American	2,560	47.03%
F, I	836	15.26%	Native Hawaiian or Other Pacific	3	0.06%
Sentence Guideline Crime Group	**5,479**		White	2,816	51.74%
Person	1,576	28.76%	**Ethnicity**	5,179	
Property	1,118	20.41%	Hispanic	194	3.73%
Controlled Substance	2,167	39.55%	Non-Hispanic	5,003	96.27%
Public Order	194	3.54%	**High School Diploma/GED**	5,235	
Public Safety	83	1.51%	Yes	3,053	58.32%
Public Trust	341	6.22%	No	2,182	41.68%
Offense Group 1 & 2	**5,479**		**Employed**	**5,479**	
Group 1 (Assaultive)	2,274	41.50%	Yes	1,813	33.09%
Group 2 (Non-Assaultive)	3,205	58.50%	No	3,666	66.91%
Convicted By	**5,479**		**Drug Abuse**	**5,479**	
Bench	30	0.55%	Yes	3,602	65.74%
Jury	77	1.41%	No	1,877	34.26%
Nolo Contendere	639	11.66%	**Alcohol Abuse**	**5,479**	
Plea	4,664	85.13%	Yes	1,979	36.12%
Plea Under Advisement	69	1.26%	No	3,500	63.88%
Attorney Status	**5,369**		**Mental Health Treatment**	**5,479**	
Appointed	4,095	76.27%	Yes	1,744	31.83%
Retained	1,274	23.73%	No	3,735	68.17%

[6] The sample for this analysis includes individuals sentenced between 2012-2017 and scored within a straddle cell for Class D offenses, excluding habitual offenders and those with a special status during the offense (HYTA, Probation, District Court Probation, Delay of Sentence, Parole, Jail, State Prisoner, Bond, Juvenile Court Supervision, Federal Probation, Federal Parole).

6. LPM Preliminary Results

The analysis presented here relies on a simple linear probability model to explore factors related to whether a straddle cell offender receives a prison sentence. The current model incorporates a variety of sentencing factors and demographic variables to account for the specifics of each sentencing decision. These control variables include: the sentencing cell (i.e., PRL and OVL), whether the offense was assaultive in nature, whether the conviction was the result of a trial, the circuit court, as well as multiple demographic factors; gender, race/ethnicity age, graduated HS/ GED, employment status, drug and alcohol abuse history, and mental health treatment.

The following examples present some of the relevant findings from the preliminary results. For more detail on the model specification and estimates, the full regression output is provided in the tables in Appendix A. For each example I will demonstrate the magnitude or size of the estimated effect using a "typical offender". The characteristics of a "typical offender" are outlined in Table 4. For these purposes the most frequent values for each variable was used.

Table 4: Example of Typical Offender[7]

Variable	Value
Offense Group 1 or 2	*Group 2*
Convicted By	*Plea*
Attorney Status	*Appointed*
Urban or Rural County	*Urban*
Gender	*Male*
Race	*White*
Ethnicity	*Non-Hispanic*
Age	*34*
High School Diploma/GED	*Yes*
Employed	*No*
Drug Abuse	*No*
Alcohol Abuse	*No*
Mental Health Treatment	*No*

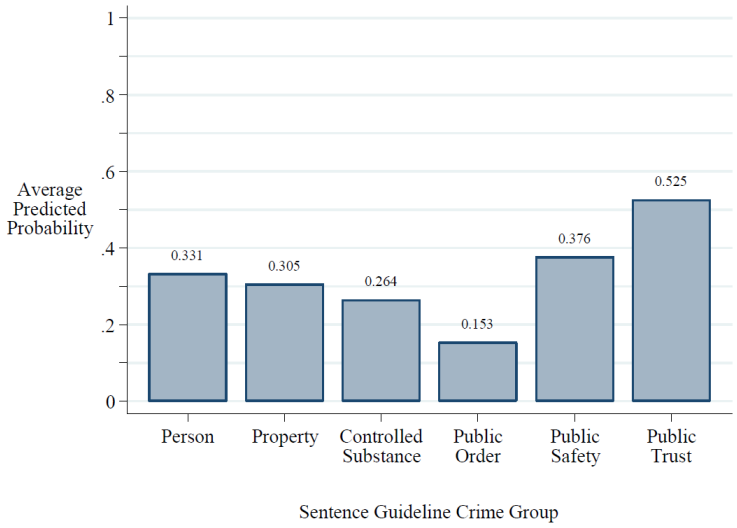
[7] The sample for this analysis includes individuals sentenced between 2012-2017 and scored within a straddle cell for Class D offenses, excluding habitual offenders and those with a special status during the offense (HYTA, Probation, District Court Probation, Delay of Sentence, Parole, Jail, State Prisoner, Bond, Juvenile Court Supervision, Federal Probation, Federal Parole).

A. Crime Group

The preliminary results suggest a significant relationship between the crime group[8] and whether an individual receives a prison sentence. For example, the likelihood of receiving a prison sentence for someone convicted of a controlled substance crime is on average 7.3 percentage points lower than those convicted of a crime against a person. Again, this difference considers or *"controls for"* the sentencing cell (i.e., PRL and OVL), whether the offense was assaultive in nature, the circuit court, if there was a trial, as well as multiple demographic factors (e.g., gender, race/ethnicity age, graduated HS/ GED, employment status, drug and alcohol abuse history, and mental health treatment.)

Figure 1 presents the average estimated probability for a "typical offender", as described in Table 4, convicted of each of the crime groups listed. For example, the first bar (Person .331) shows that a typical offender convicted of a Crime Against a Person has on average a 33.1% chance of receiving a prison sentence. In contrast, a typical offender convicted of a Controlled Substance crime has on average a 26.4% probability of a prison sentence. The difference being 7.3 percentage points or 25.4% less likely.

Figure 1: Likelihood of a Prison Sentence for Typical Offender by Crime Group



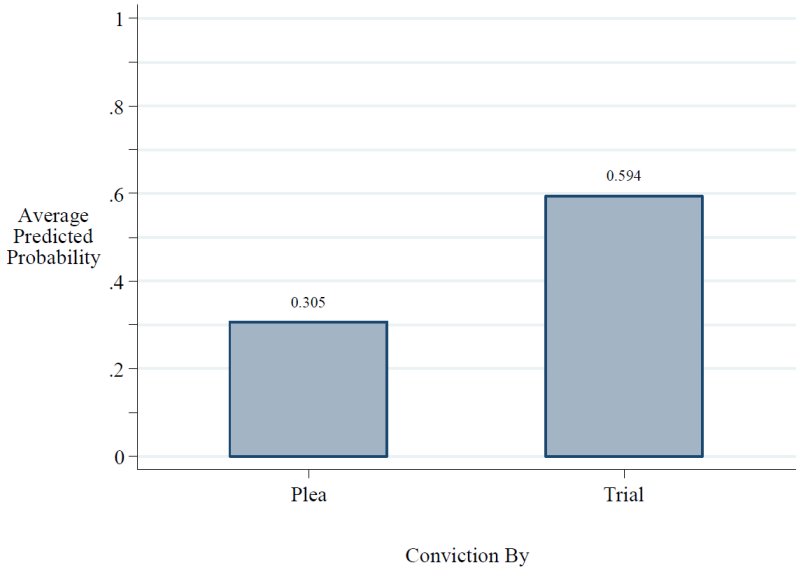
[8]All offenses fall within one of six groups defined in the Sentencing Guideline Manual: 1) Crimes against a person (Person), 2) Crimes against property (Property), 3) Crimes involving a controlled substance (CS), 4) Crimes against public order (Pub ord), 5) Crimes against public safety (Pub saf), and 6) Crimes against public trust (Pub Trst).

B. Jury or Bench Trial

Individuals convicted by jury or bench trials are, on average, 28.8 percentage points more likely to be sentenced to prison than similarly scored individuals convicted as a result of a Plea, Plea Under Advisement, or Nolo Contendere plea. From the underlying data we can see that 65.42% (70/107) of those convicted by a trial are sentenced to prison, compared to only 29.50% (1,585/5,372) for those entering a plea. Given the magnitude of this difference, in addition to being statistically significant, these results suggest a strong association between going to trial and greater chances of receiving a prison sentence. However, these results should not be interpreted as causal (i.e., going to trial will make you more likely to receive a prison sentence) because there may be additional factors outside the model that provide a plausible explanation, such as plea bargains, for why a large difference exists.

Figure 2 presents the average estimated probability of being sentenced to prison for a typical offender convicted by a plea (30.5%) and a typical offender convicted by trial (59.4%). For the typical offender, the 28.8 percentage points increase associated with a trial is nearly equivalent to being twice as likely to be sentenced to prison.

Figure 2: Likelihood of a Prison Sentence for Typical Offender by Conviction Method

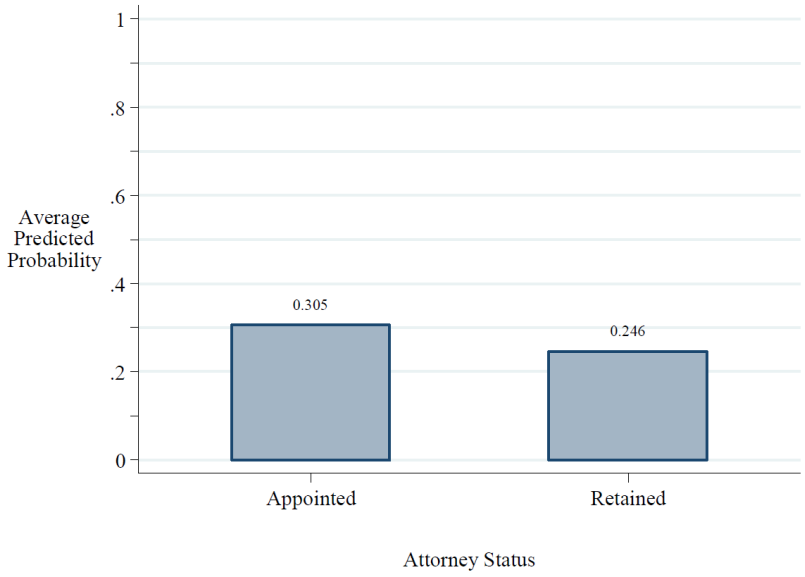


C. Attorney Status (Retained/Appointed)

For those who retain their attorney, we find a modest and statistically significant decrease in the likelihood of receiving a prison sentence, compared to those whose attorney was appointed. Controlling for the offender's cell, crime type, circuit court, and demographic factors, those that retain an attorney are 5.9 percentage points less likely on average to receive a prison sentence than those with appointed attorneys.

Figure 3 presents the average estimated probability of being sentenced to prison for a typical offender whose attorney was appointed (30.5%) and a typical offender who retained their attorney (24.64%). For the typical offender, a 5.9 percentage points decrease associated with retaining an attorney is equivalent to be 19.3% likely to be sentenced to prison.

Figure 3: Likelihood of a Prison Sentence for Typical Offender by Attorney Status

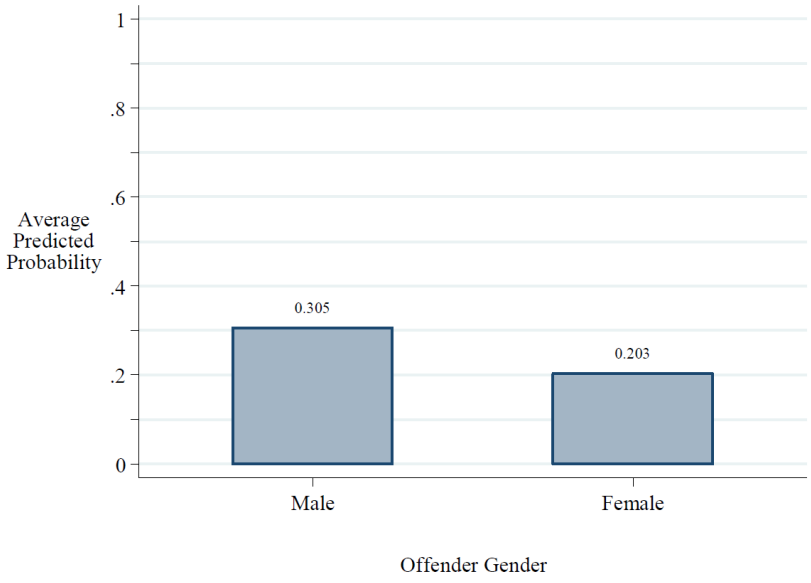


D. Gender

When comparing the likelihood of receiving a prison sentence between male and female offenders we see a statistically and practically significant relationship. On average, female offenders are 10.2 percentage points less likely to receive a prison sentence than male offenders located in the same sentencing cell, controlling for specifics of the offense, the sentencing court, and demographic variables.

Again, using the typical offender for context, Figure 4 presents the average likelihood of being sentenced to prison for male (30.5%) and female (20.3%) offenders. The 10.2 percentage point difference implies that for typical offenders, female offenders are on average 33.4 less likely to receive a prison sentence than male offenders.

Figure 4: Likelihood of a Prison Sentence for Typical Offender by Gender



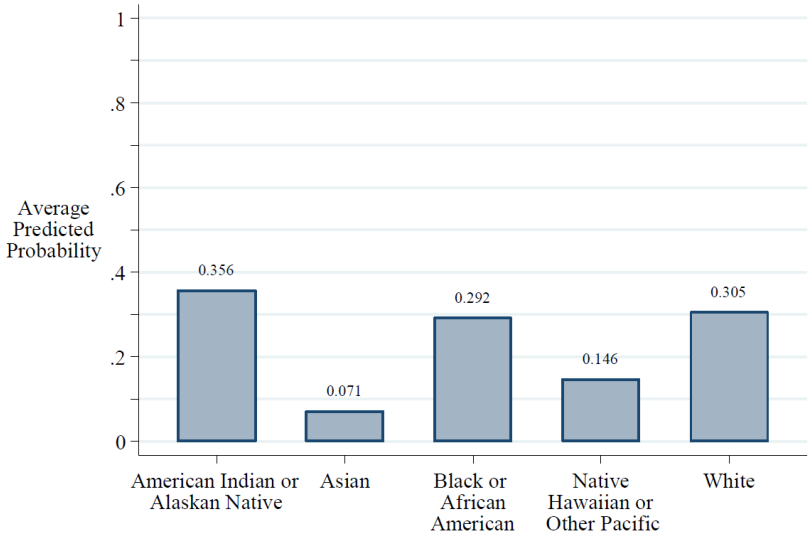
E. Race and Ethnicity

The current model incorporates binary variables for each of the four non-white race categories (i.e., variables equal to 1 if the individual identified as that race and 0 otherwise). Using this structure means each race variable's coefficients can be interpreted as the average difference in the probability of a prison

sentence between that race and white offenders. From table X we see two types of relationships emerge. First, both Asian and Native Hawaiian offenders appear less likely, 15.1 and 23.1 percentage points respectively, to receive a prison sentence than similarly situated white offenders. Secondly, the coefficients on American Indian or Alaskan Native and Black or African American are statistically insignificant. In this context statistically insignificant implies Black or African American and white offenders are on average equally likely to receive a prison sentences, after considering their offense, sentencing cell, court, and other demographics.

An additional binary variable indicating Hispanic ethnicity, as described in section X, is also included. Again, we see the results are statistically insignificant. This suggests that Hispanic and Non-Hispanic offenders are on average equally likely to receive a prison sentence, after considering their offense, sentencing cell, court, and other demographics.

Figure 5: Likelihood of a Prison Sentence for Typical Offender by Race



F. Additional Figures for Discussion

Figure 6: Likelihood of a Prison Sentence for Typical Offender by Crime Group and Conviction Method

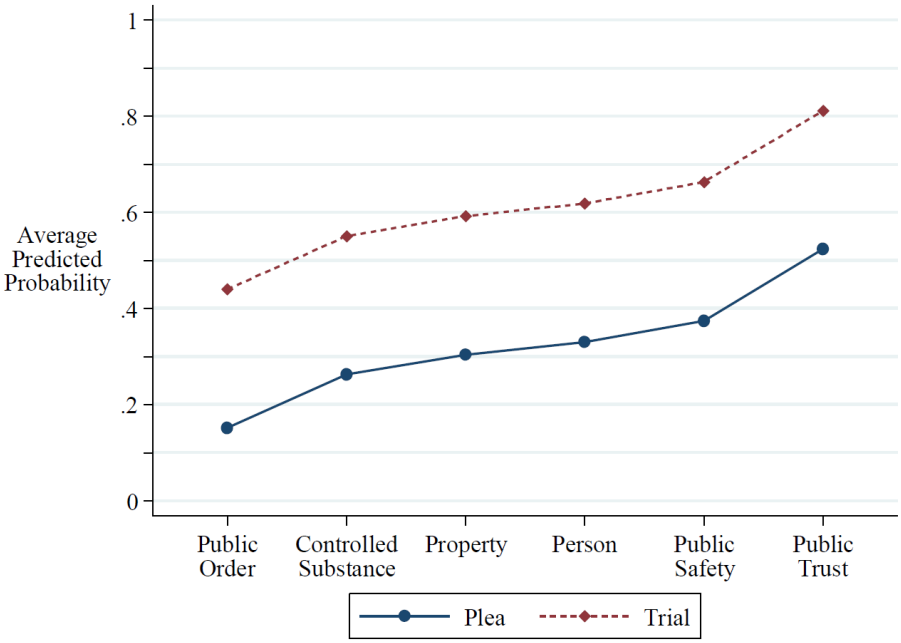


Figure 7a: Statistically Significant Factors

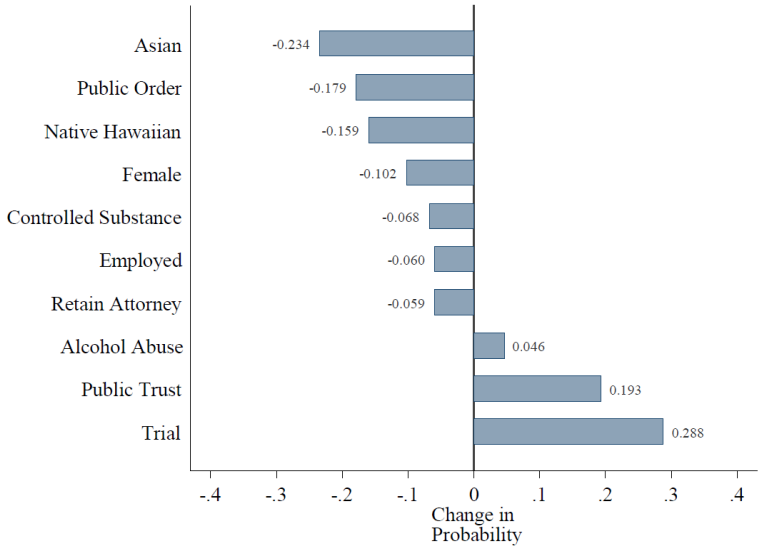
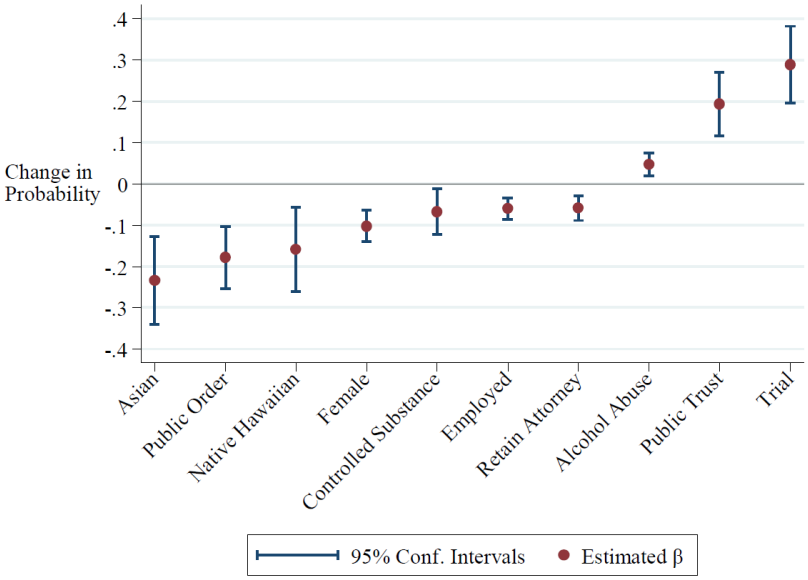


Figure 7b: Statistically Significant Factors with 95% Confidence Intervals



7. **Next Steps**

A. Additional Considerations for Research Question 2

- Interactions Between Variables
- Omitted Variables
- LPM vs Logit/Probit Models

B. Incorporate Feedback Received Today

C. Modeling Research Question 3

- Does the recidivism rate for those receiving a prison sentences differ significantly from those receiving intermediate sanctions?
- Given limitations of the data, clearly define the how recidivism is measured.

Appenix

Table A-1: Regression Results - Linear Probability Model

VARIABLES	(1) *Prison*	(2) *Prison*	(3) *Prison*	(4) *Prison*	(5) *Prison*	(6) *Prison*	(7) *Prison*	(8) *Prison*
Sentence Guideline Crime Group								
Property		-0.015	-0.018	-0.013	-0.015	-0.026	-0.028	-0.034*
		(0.020)	(0.021)	(0.021)	(0.021)	(0.021)	(0.020)	(0.020)
Controlled Substance		-0.072***	-0.059**	-0.058**	-0.054**	-0.074***	-0.072***	-0.071***
		(0.020)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
Public Order		-0.147***	-0.135***	-0.139***	-0.138***	-0.151***	-0.171***	-0.172***
		(0.032)	(0.036)	(0.036)	(0.037)	(0.037)	(0.036)	(0.036)
Public Safety		0.062	0.064	0.054	0.063	0.046	0.018	0.014
		(0.054)	(0.054)	(0.052)	(0.052)	(0.052)	(0.051)	(0.051)
Public Trust		0.199***	0.212***	0.203***	0.213***	0.192***	0.194***	0.198***
		(0.033)	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)
Group 1 Offense			0.019	0.016	0.010	0.000	0.013	0.015
			(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
Jury or Bench Trial				0.328***	0.322***	0.323***	0.293***	0.291***
				(0.045)	(0.046)	(0.046)	(0.046)	(0.045)
Attorney Retained					-0.056***	-0.050***	-0.064***	-0.066***
					(0.014)	(0.015)	(0.014)	(0.014)
Rural or Urban County								
Mostly Rural (50 to 99.9%)						0.067***	0.019	0.006
						(0.015)	(0.120)	(0.118)
Completely Rural (100%)						0.184***	0.009	0.002
						(0.053)	(0.130)	(0.128)
Constant	0.260***	0.274***	0.263***	0.250***	0.273***	0.263***	0.195***	0.216***
	(0.020)	(0.022)	(0.026)	(0.026)	(0.027)	(0.027)	(0.029)	(0.032)
Cell Fixed Effects	✓	✓	✓	✓	✓	✓	✓	✓
Circuit Court Fixed Effects							✓	✓
Year Fixed Effects								✓
Observations	5,479	5,479	5,479	5,479	5,369	5,369	5,368	5,368
Adjusted R-squared	0.018	0.040	0.039	0.049	0.051	0.056	0.133	0.137

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-2: Regression Results - Linear Probability Model

VARIABLES	(9) *Prison*	(10) *Prison*	(11) *Prison*	(12) *Prison*	(13) *Prison*	(14) *Prison*
Sentence Guideline Crime Group						
Property	-0.032	-0.035*	-0.038*	-0.040*	-0.038*	-0.026
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.022)
Controlled Substance	-0.070***	-0.070***	-0.066**	-0.067**	-0.069**	-0.068**
	(0.026)	(0.026)	(0.027)	(0.027)	(0.027)	(0.028)
Public Order	-0.173***	-0.178***	-0.188***	-0.187***	-0.188***	-0.179***
	(0.036)	(0.036)	(0.037)	(0.037)	(0.037)	(0.038)
Public Safety	0.013	0.014	0.015	0.014	0.015	0.045
	(0.051)	(0.051)	(0.054)	(0.054)	(0.054)	(0.056)
Public Trust	0.204***	0.206***	0.212***	0.211***	0.209***	0.193***
	(0.037)	(0.037)	(0.038)	(0.038)	(0.038)	(0.039)
Group 1 Offense	0.009	0.008	0.012	0.011	0.011	-0.003
	(0.023)	(0.023)	(0.024)	(0.024)	(0.024)	(0.024)
Jury or Bench Trial	0.297***	0.295***	0.283***	0.284***	0.283***	0.288***
	(0.045)	(0.046)	(0.047)	(0.047)	(0.047)	(0.047)
Attorney Retained	-0.069***	-0.068***	-0.069***	-0.069***	-0.071***	-0.059***
	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)	(0.015)
Rural or Urban County						
Mostly Rural (50 to 99.9%)	0.005	-0.003	0.073	0.076	0.073	0.092
	(0.118)	(0.119)	(0.127)	(0.128)	(0.128)	(0.135)
Completely Rural (100%)	-0.007	-0.015	0.059	0.060	0.058	0.055
	(0.128)	(0.129)	(0.135)	(0.136)	(0.136)	(0.143)
Female Offender	-0.085***	-0.087***	-0.089***	-0.088***	-0.091***	-0.102***
	(0.018)	(0.018)	(0.019)	(0.019)	(0.019)	(0.019)
Race						
American Indian or Alaskan Nat		0.078	0.043	0.042	0.042	0.050
		(0.071)	(0.074)	(0.074)	(0.074)	(0.074)
Asian		-0.210***	-0.205***	-0.207***	-0.208***	-0.234***
		(0.057)	(0.063)	(0.063)	(0.062)	(0.054)
Black or African American		-0.016	-0.013	-0.014	-0.012	-0.014
		(0.015)	(0.015)	(0.015)	(0.015)	(0.016)
Native Hawaiian or Other Pacifi		-0.164***	-0.165***	-0.162***	-0.168***	-0.159***
		(0.059)	(0.058)	(0.056)	(0.055)	(0.052)
Hispanic			0.048	0.049	0.048	0.038
			(0.034)	(0.034)	(0.034)	(0.034)
Age				-0.001	0.005	0.009***
				(0.001)	(0.003)	(0.003)
Age Squared					-0.000*	-0.000***
					(0.000)	(0.000)
High School Diploma/GED						-0.019
						(0.013)
Employed						-0.060***
						(0.013)
Drug Abuse						0.012
						(0.015)
Alcohol Abuse						0.046***
						(0.014)
Mental Health Treatment						0.011
						(0.014)
Constant	0.232***	0.252***	0.236***	0.260***	0.168***	0.113*
	(0.032)	(0.033)	(0.034)	(0.039)	(0.063)	(0.065)
Cell Fixed Effects	✓	✓	✓	✓	✓	✓
Circuit Court Fixed Effects	✓	✓	✓	✓	✓	✓
Year Fixed Effects	✓	✓	✓	✓	✓	✓
Observations	5,368	5,332	5,063	5,063	5,063	4,840
Adjusted R-squared	0.140	0.140	0.137	0.137	0.138	0.149

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table A-3: Regression (1) & (14) Results
Individual Cell Coefficients

VARIABLES	(1) prison	(14) prison
Cell (PRV, OVL)		
A, VI	0.247***	0.289***
	(0.045)	(0.049)
A, V	0.011	0.061*
	(0.033)	(0.037)
B, V	0.081*	0.091*
	(0.047)	(0.051)
B, IV	0.016	0.009
	(0.039)	(0.042)
C, IV	0.079***	0.078**
	(0.030)	(0.031)
D, III	0.148***	0.147***
	(0.035)	(0.037)
D, II	-0.006	0.010
	(0.024)	(0.026)
E. II	0.128***	0.150***
	(0.029)	(0.033)
E, I	-0.019	0.014
	(0.024)	(0.029)
F, I	0.075***	0.111***
	(0.026)	(0.031)
Constant	0.260***	0.113*
	(0.020)	(0.065)
Control Variables †		✓
Circuit Court Fixed Effects		✓
Year Fixed Effects		✓
Observations	5,479	4,840
Adjusted R-squared	0.018	0.149

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
† Control Variables include all of those listed in col

Regression Output – Full Model (14)

Linear regression

Number of obs	=	4,840	
F(94, 4745)	=	13.94	
Prob > F	=	0.0000	
R-squared	=	0.1654	
Root MSE	=	.42355	

prison	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
cell						
A6	.288715	.0485951	5.94	0.000	.193446	.383984
A5	.0606383	.0368441	1.65	0.100	-.0115932	.1328698
B5	.0907261	.0512101	1.77	0.077	-.0096695	.1911217
B4	.0087672	.042016	0.21	0.835	-.0736037	.091138
C4	.0779019	.0313924	2.48	0.013	.0163582	.1394456
D3	.146989	.0366965	4.01	0.000	.0750468	.2189313
D2	.0097263	.0263818	0.37	0.712	-.0419943	.0614469
E2	.1503564	.0326332	4.61	0.000	.0863802	.2143325
E1	.0136454	.0292836	0.47	0.641	-.0437642	.0710549
F1	.1113403	.0314123	3.54	0.000	.0497576	.172923
group						
Property	-.026119	.022117	-1.18	0.238	-.0694786	.0172405
CS	-.0677472	.0280397	-2.42	0.016	-.1227179	-.0127765
Pub Order	-.1785811	.038005	-4.70	0.000	-.2530886	-.1040736
Pub Safety	.0445343	.0560633	0.79	0.427	-.0653758	.1544443
Pub Trust	.1932049	.0391519	4.93	0.000	.116449	.2699609
grp1	-.0029117	.0243597	-0.12	0.905	-.050668	.0448447
1.trial	.2882355	.0473369	6.09	0.000	.1954331	.3810378
1.retain	-.059341	.015271	-3.89	0.000	-.0892793	-.0294027
urban_rural						
mostly rural (50 to 99.9%)	.0922462	.1354342	0.68	0.496	-.1732676	.3577601
completely rural (100%)	.0549762	.1426584	0.39	0.700	-.2247004	.3346529
female	-.1021542	.0193419	-5.28	0.000	-.1400733	-.0642352
race						
American Indian or Alaskan Native	.0501982	.0742152	0.68	0.499	-.095298	.1956944
Asian	-.2343244	.0543771	-4.31	0.000	-.3409286	-.1277201
Black or African American	-.0135782	.0159091	-0.85	0.393	-.0447674	.017611
Native Hawaiian or Other Pacific	-.1592053	.0518332	-3.07	0.002	-.2608224	-.0575881
hisp	.0377001	.0344124	1.10	0.273	-.0297643	.1051644
age	.0088329	.0031367	2.82	0.005	.0026835	.0149823
c.age#c.age	-.0001192	.0000384	-3.10	0.002	-.0001946	-.0000438
hs	-.0185097	.0131657	-1.41	0.160	-.0443206	.0073012
employed	-.0597013	.0134303	-4.45	0.000	-.0860309	-.0333718
drug	.0118704	.0148159	0.80	0.423	-.0171757	.0409165
alcohol	.0463311	.0142212	3.26	0.001	.018451	.0742112
mental_h	.0114663	.0140407	0.82	0.414	-.01606	.0389927

-- Output continued on next page --

circuit						
1	.4591623	.1471083	3.12	0.002	.1707617	.7475629
2	.2158584	.0362192	5.96	0.000	.1448519	.2868649
4	.182882	.057917	3.16	0.002	.0693377	.2964262
5	-.1916032	.1531693	-1.25	0.211	-.4918862	.1086798
6	.0254833	.0405214	0.63	0.529	-.0539575	.104924
7	-.061807	.0274353	-2.25	0.024	-.1155929	-.0080211
8	.0420272	.1468642	0.29	0.775	-.2458949	.3299492
9	-.1010078	.0269588	-3.75	0.000	-.1538595	-.0481561
10	.0186725	.0538639	0.35	0.729	-.0869257	.1242707
11	.0674278	.1708564	0.39	0.693	-.2675301	.4023857
12	-.0684614	.1696462	-0.40	0.687	-.4010467	.2641239
13	.392146	.0770005	5.09	0.000	.2411892	.5431027
14	.1395058	.0569427	2.45	0.014	.0278717	.25114
15	.2632419	.1596483	1.65	0.099	-.0497429	.5762267
16	-.0148448	.0266249	-0.56	0.577	-.0670419	.0373523
17	.2530479	.0303157	8.35	0.000	.1936151	.3124807
18	-.0257242	.0622417	-0.41	0.679	-.1477468	.0962984
19	.1183215	.193645	0.61	0.541	-.2613126	.4979557
20	.0172983	.0553508	0.31	0.755	-.0912151	.1258116
21	.0344538	.0745813	0.46	0.644	-.1117601	.1806678
22	.0872485	.0427846	2.04	0.041	.0033708	.1711262
23	.0420441	.1691988	0.25	0.804	-.289664	.3737522
24	-.0780049	.1765074	-0.44	0.659	-.4240413	.2680315
25	.2354962	.1071392	2.20	0.028	.0254536	.4455389
26	.1122571	.1632827	0.69	0.492	-.2078528	.4323669
27	.0021878	.1553731	0.01	0.989	-.3024157	.3067913
28	.1676102	.1526173	1.10	0.272	-.1315905	.466811
29	.1852591	.153367	1.21	0.227	-.1154114	.4859297
30	-.0573039	.0350277	-1.64	0.102	-.1259743	.0113666
31	-.0371889	.0415194	-0.90	0.370	-.1185862	.0442084
32	.132181	.2430704	0.54	0.587	-.3443497	.6087117
33	.1212172	.2250564	0.54	0.590	-.3199977	.5624322
34	.2727494	.1641551	1.66	0.097	-.0490708	.5945697
35	.1678153	.1804121	0.93	0.352	-.1858761	.5215066
36	-.1799662	.1408376	-1.28	0.201	-.4560733	.096141
37	-.0194839	.0445465	-0.44	0.662	-.1068157	.0678479
38	.2807843	.0606959	4.63	0.000	.1617921	.3997765
39	.2384886	.1495126	1.60	0.111	-.0546255	.5316028
40	-.3537278	.1420932	-2.49	0.013	-.6322964	-.0751593
41	.3619202	.1733002	2.09	0.037	.0221715	.701669
42	.046407	.1268414	0.37	0.714	-.202261	.2950749
43	-.1217106	.1447057	-0.84	0.400	-.405401	.1619798
44	.0067744	.0775902	0.09	0.930	-.1453384	.1588872
45	-.1519148	.1415945	-1.07	0.283	-.4295056	.1256761
46	.1395137	.1558006	0.90	0.371	-.1659277	.4449551
47	.0152353	.1120463	0.14	0.892	-.2044274	.2348979
48	-.1784209	.140521	-1.27	0.204	-.4539073	.0970654
49	.1510776	.1524236	0.99	0.322	-.1477435	.4498987
50	.183316	.1100377	1.67	0.096	-.0324091	.399041
51	-.0035269	.184372	-0.02	0.985	-.3649816	.3579278
52	-.1610332	.1825557	-0.88	0.378	-.518927	.1968606
53	-.0873896	.1849645	-0.47	0.637	-.4500059	.2752267
54	-.2057164	.1512966	-1.36	0.174	-.5023279	.0908951
55	.2952903	.1612023	1.83	0.067	-.0207411	.6113217
56	-.1456449	.0473425	-3.08	0.002	-.2384582	-.0528316
57	.1618837	.1896086	0.85	0.393	-.2098371	.5336045
disp_year						
2013	-.0140474	.0215534	-0.65	0.515	-.0563021	.0282072
2014	.0093851	.0215682	0.44	0.663	-.0328986	.0516687
2015	-.0279231	.0214735	-1.30	0.194	-.0700212	.0141751
2016	-.0270968	.021674	-1.25	0.211	-.0695879	.0153944
2017	-.0838818	.0211702	-3.96	0.000	-.1253853	-.0423783
_cons	.1134064	.0652774	1.74	0.082	-.0145677	.2413804