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Effects of pretrial release decision on post-adjudication offense rates

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This report summarizes University of Chicago Crime Lab's work analyzing adult criminal felony court information obtained from the Illinois Circuit Court of the Cook County. This work would not have been possible without the assistance of researchers in the Office of the Chief Judge.

EXECUTIVE SUMMARY

- 27% of defendants are arrested within a year of their release. Defendants who are detained pretrial have a slightly higher likelihood of getting rearrested post adjudication.
- Defendants with past Arrest Histories are highly likely to offend post adjudication. Defendants with Arrest history are 40 times more likely to offend post adjudication.
- The effect of length of sentence on post adjudication offense is negative. Longer the length of the sentence, less likely the individuals are to offend post adjudication.
- Age has diminishing effect on post adjudication offense. Older the defendant is at the time of release, less likely are the individuals to offend post adjudication. Defendants aged 17-25 are most likely to offend post adjudication.

BACKGROUND

Following an order from Chief Judge Evans that took effect September 18, 2017, the Circuit Court of Cook County will require staff and judges to inquire about a defendant's ability to pay and set bail amounts accordingly. For a defendant to be released, the judge must find that he or she does not present a danger to the community.

Due to this new policy, the Court would like to know the effect on individuals' future (post-adjudication) offending from their being detained pre-trial, particularly individuals charged with a gun offense. Pre-trial detention is commonly thought to increase the likelihood that individuals are convicted and receive harsher sentences, for example by making them willing to accept a less favorable plea deal. Independent of its effect on conviction and sentencing, pre-trial detention is also thought to increase the risk of future offending because it is a traumatic experience.

In this initial analysis, we will not be able to determine the causal effect of pre-trial detention. Instead, we will compare the outcomes of those who were detained pre-trial to those who were not. These two groups may differ for reasons other than the effect of pre-trial detention; for example, individuals detained pre-trial may be poorer (and are therefore less able to post bond, conditional on its amount), or they may be suspected of committing more serious offenses (and are therefore more likely to have any or a large bond amount, conditional on their income).

RESEARCH OBJECTIVE

The objective is to investigate the effects of pretrial decision making on post-adjudication offending. We would like to provide the Chief Judge's office with information on the rates of post-adjudication offending for individuals, separately by whether they were detained pre-trial, with a focus on individuals charged with gun offenses.

DATA

Our initial data comprised on 159,190 cases disposed in the adult criminal felony court from 2012 through October 2017. The observations in the data are at case level and includes information about the defendant and case characteristics. Information such as charges, release dates, indicator whether the defendant was detained or released, dates pertaining to the case, outcome, sentence length, defendants race, gender, DOB, IR# are included.

Of this, we identified 19,501 or roughly 13% cases as gun felony cases based on a combination of charge descriptions, statute codes and AOIC codes fields.

We define gun charges as those pertaining to the violation of statutes involving the illegal use or possession of firearms. This yields a set of charges primarily drawn from the below categories of gun offenses:

- FELON Possession / Use of a Firearm
- Unlawful Use of a Weapon (UUW)/Aggravated UUW (AUUW)
- Armed Habitual Crime
- Armed Robbery / Armed with firearm
- Aggravated UUW / Loaded

A defendant can have concurrent cases pending against them, and can therefore have conflicting release indicators i.e they may be detained pre-trial on one case but not on another. In our final dataset, for such cases we treat the defendant as detained pre-trial even if the flag suggests otherwise as detention takes precedence over release in the judicial system. We found 3.5% of total gun felony cases had conflicting release indicators. This equates to ~2% of total defendant pool of 16,567.[1]

In order to retrieve defendants' arrest histories and construct our outcome variable post-adjudication offense, we merge the court data to corresponding CPD Arrest data. The CPD data is arrest-level records between the years 2005 and 2017. We merge the data based on two corresponding fields in the datasets, CB_NO (Case #) and a combination of IR_NO and Arrest date which renders an additional 236 cases. Around 80% of records matched are based on CB_NO. We construct Arrest histories for these variable as a count of number of arrests before the case initiation date for these 15,415 cases.

OUR SAMPLE FOR ANALYSIS

We calculate some new variables based on the existing fields in the dataset and perform variable transformation. We will detail them in the sections below.

CONSTRUCTION OF NEW VARIABLES

In line with our research objective on understanding the effects of pretrial decision – detention or release we construct additional control variables for our model. Here's a list of additional variables we construct and how we calculate them based on existing fields in our dataset.

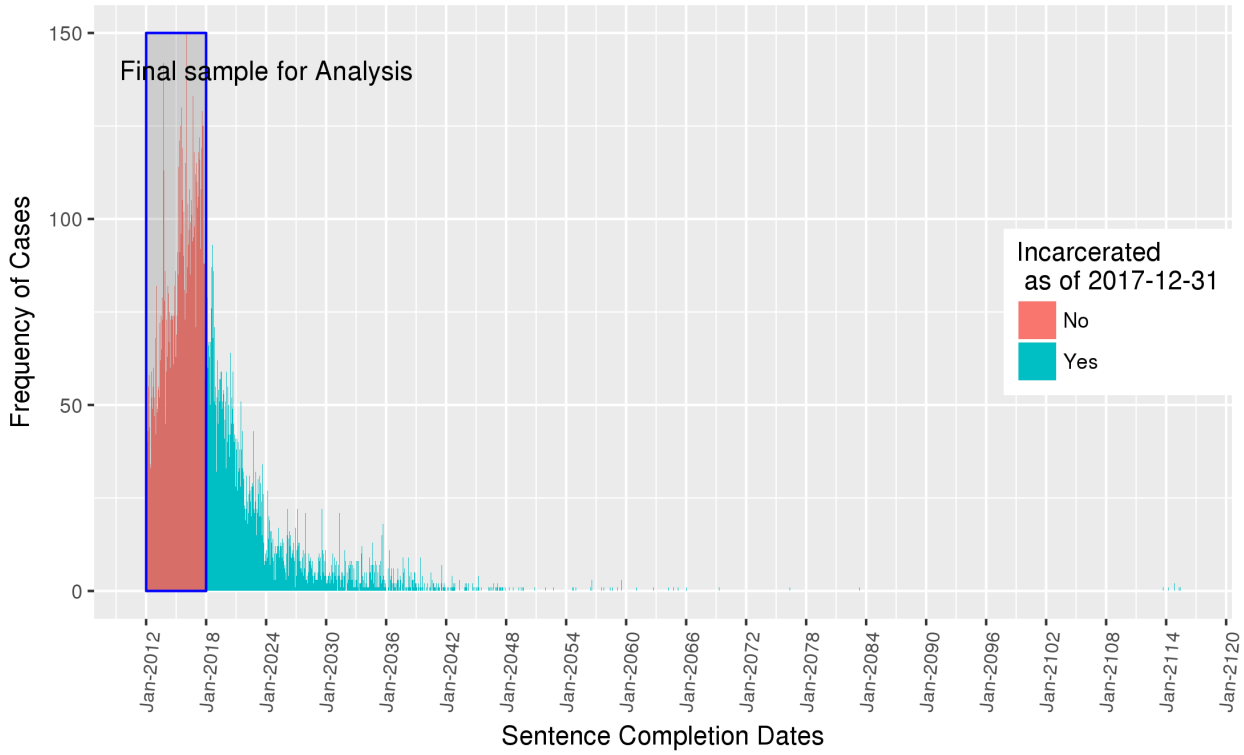
Variable name	Calculation
Sentence completion date	Sum of length of IDOC and CCDOC sentences
Number of additional charges associated with a case	Count of AOIC codes associated with the case
Length of Detention	Difference between Outcome date and Arrest date for Individuals detained,[2] Difference between First release and Arrest date for Individuals released or detained initially and then released eventually.
Length of Pretrial	Difference between Outcome date and Arrest date
Age of defendant	Calculated as Age at the time of case initiation and at the time of completing the sentence (if found guilty) or outcome date (if not found guilty)
Offense post adjudication (Outcome variable)	Calculated as count of arrests for a given individual post the outcome / adjudication date of the case

TRANSFORMATION OF VARIABLES

In our sample for analysis, we define outcome variable as any offense within 1 year of sentence completion (if found guilty and serving sentence) or outcome date (if not found guilty). In our final model, we transform our dependent variable, post adjudication offense as a binary variable of any arrest occurring within one year of post adjudication / outcome date. We treat arrest history as binary variable indicating whether the individual facing trial has had any arrest history.

In addition, we exclude cases from our sample data for analysis where the individual is still incarcerated. This is to reduce any bias stemming from cases where the individual is still incarcerated / serving time and for whom the likelihood to reoffend is zero.

Plot 1: Frequency of cases by their sentence completion date



Plot 1 illustrates the frequency of cases by their sentence completion dates and highlights the distinction between cases where the defendant is still incarcerated and ones where the defendant is released from prison (if found guilty).

RESULTS FROM PRELIMINARY ANALYSIS

Table 1: Summary of Cases

Disposition Year	Cases	Gun Cases	% Gun	CPD Match Cases	% Match	Exclude cases where defendant incarcerated	% Final sample
2012	28,494	3,621	12.7%	2,934	81.0%	2,210	75.3%
2013	28,324	3,230	11.4%	2,500	77.4%	1,795	71.8%
2014	28,510	3,483	12.2%	2,659	76.3%	1,644	61.8%
2015	25,618	3,308	12.9%	2,603	78.7%	1,371	52.7%
2016	23,985	3,273	13.6%	2,533	77.4%	1,291	51.0%
2017 (as of Oct)	17,056	2,980	17.5%	2,186	73.4%	756	34.6%
	151,987	**19,895**		**15,415**		**9,067**	

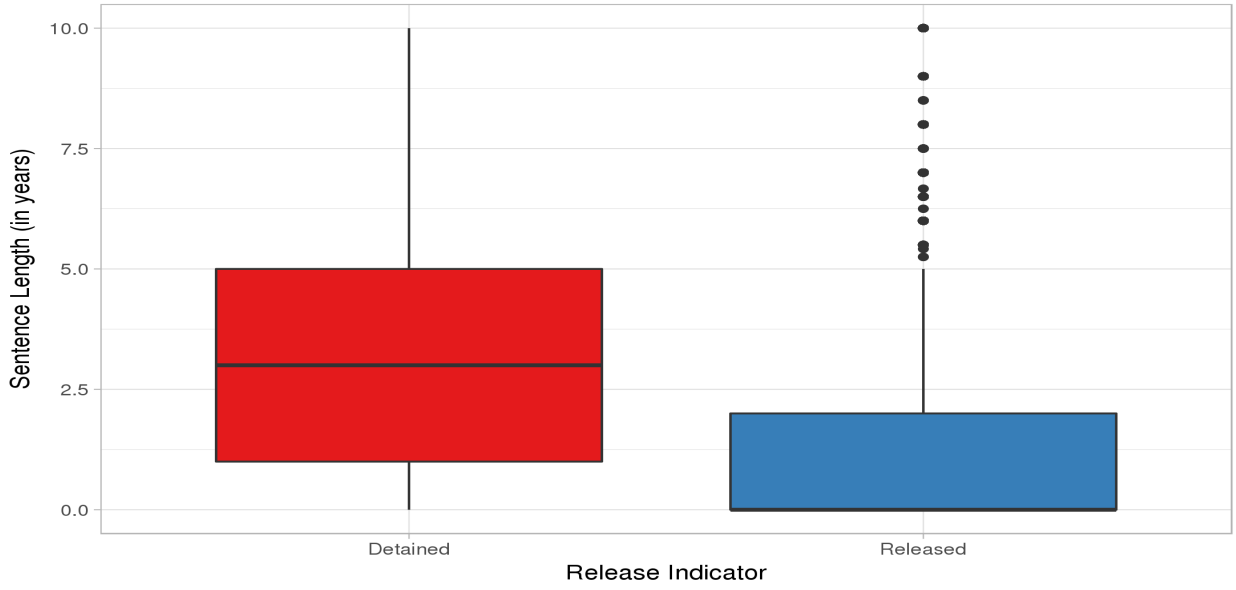
Table 1 summarizes the sample of cases included in this analysis. Between 2012 and October 2017, approximately 25,000 felony cases were disposed each year, of which about around 3,000 were gun cases. In our final sample of analysis, the farther out in the past the case was disposed, higher the number of cases where the defendant is out of the prison.

Table 2: Crosstabs of Release decision and Future offense

Future offense / Release	Detained	% Detained	Released	% Released	Total
No	3,085	69.0%	3,558	77.4%	6,643
Yes	1,383	31.0%	1,041	22.6%	2,424
	4,468	**49.3%**	**4,599**	**50.7%**	**9,067**

27% or 2,424 of defendants facing charges are rearrested post adjudication. Of the 27%, 57% of them were detained pretrial.

Plot 2: Comparison of Pretrial decision and sentence length



The difference between the sentence lengths for the two groups is significant. On average, the sentence length of cases where the defendant is detained pretrial is 5 years versus 1.6 years for cases where the defendant is released pretrial.

SUMMARY OF MODEL RESULTS

- Defendants who were detained pretrial have a higher likelihood of offending post adjudication compared to defendants who were released during the pretrial period.
- Defendants with prior arrest histories are 40 times more likely to reoffend post adjudication. It would be interesting to look into the type of Arrest histories / charges of the defendants.
- The effect of length of sentence on post adjudication offense is negative. Longer the length of the sentence, less likely the individuals are to offend post adjudication.

- Males are twice as likely to offend post adjudication.
- Age has diminishing effect on post adjudication offense. Older the defendant is at the time of release, less likely are the individuals to offend post adjudication. Defendants aged 17-25 are most likely to offend post adjudication.

Table 3: Logit model summary

	Estimate	Std. Error	z value	P-Value
(Intercept)	-5.2877	0.7332	-7.21	0.0000
Age_Group26-35	-0.3026	0.0378	-8.01	0.0000
Age_Group36-45	-0.8167	0.0921	-8.87	0.0000
Age_Group46+	-1.8812	0.3751	-5.02	0.0000
Race other	0.0920	0.1484	0.62	0.5355
Race White	-0.2126	0.0513	-4.14	0.0000
CRSEXM	0.8626	0.1549	5.57	0.0000
Released	-0.1572	0.0379	-4.14	0.0000
Arrest History - Yes	3.7362	0.7152	5.22	0.0000
Pretrial Length (Months)	-0.0027	0.0021	-1.29	0.1985
Charge Count (AOICs)	0.0036	0.0050	0.72	0.4721
Sentence Length (Months)	-0.0053	0.0012	-4.39	0.0000
Outcome Year 2013	-0.0294	0.0450	-0.65	0.5133
Outcome Year 2014	-0.1678	0.0499	-3.36	0.0008
Outcome Year 2015	-0.2635	0.0554	-4.75	0.0000
Outcome Year 2016	-0.4147	0.0621	-6.68	0.0000
Outcome Year 2017	-0.6982	0.0895	-7.80	0.0000

METHODOLOGY

We first fit stepwise OLS regression to get a feel for the OLS estimates and its effect on our dependent variable – count of post adjudication offense within 1 year. We then proceed to fitting multivariate logistic regression model with our dependent variable being a binary variable of arrests within 1 year of sentence completion date or case outcome date. Covariates in our model include Age, Race and Sex as categorical variables, our independent variable of interest Release decision, binary Arrest history variable, pretrial length, sentence length, number of charges associated with a given case and time fixed effects for year of the case outcome.

Appendix:

1 We analyzed the effect of concurrent cases with conflicting release indicator separately in our model and found that it did not have any significant effect on the outcome.

2 Detention length is equal to pretrial length for defendants detained for the entirety of their pretrial period.