

# The Determinants of Pretrial Detention and Its Effect on Conviction and Sentencing Outcomes



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## Abstract

The purpose of the present study is to ascertain the determinants of pretrial detention and the effects of pretrial detention on conviction and sentencing outcomes. Regarding the determinants of pretrial detention, prior research has found that the type of attorney used may affect the likelihood of pretrial detention. Regarding the effects of pretrial detention on conviction and sentencing outcomes, prior research has found that pretrial detention increases the likelihood of a conviction and the severity of the sentence. The present study differs from prior research in several ways. First, this study will use data from 25 states for the period 1992-2009. This is one of the largest data sets ever used to study the determinants and effects of pretrial detention on conviction and sentencing outcomes. Second, a two-stage least squares (2SLS) model will be used to estimate the likelihood of conviction and imprisonment. Results of the present study indicate that pretrial detention increases the probability of both being convicted and being imprisoned. Furthermore, the present study found that those defendants who used public defenders or assigned attorneys were much more likely to be detained pretrial than those defendants who had retained private counsel.

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## Introduction

*"Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted." (Amendment VIII, U.S. Constitution)*

Bail has been used for centuries in order to ensure that defendants appear in court for their trials. Unfortunately, over the past two decades, the use of monetary bail and the amount of bail required in order to obtain pretrial release have both increased dramatically. The proportion of defendants who are released with no conditions has declined from 26% to 14% in the past twenty years (Dobbie, Goldin, and Yang, 2016). In addition, the average monetary bail has increased from \$25,400 to \$55,400 during the same period (Dobbie, Goldin, and Yang, 2016). Given this increase in the imposition of bail and the increase in bail amounts, there are over 500,000 defendants who are incarcerated before ever being convicted (Dobbie, Goldin, and Yang, 2016).

This increase in the imposition of bail disproportionately affects the poor. Persons who have limited incomes cannot afford to post bail, even when the amount required to secure release is only 10% of the bail amount. If a defendant cannot post bail, then they are incarcerated until the final disposition of the case. During this period of incarceration, the defendants may lose their jobs or sources of income, they may lose their health insurance and housing, and they may be less able to fully participate in their legal defense. Given that detention may reduce their income, defendants who are unable to post bail may not be able to obtain the services of a private defense attorney, thus requiring them to rely on underfunded and overworked public defenders. In addition, given their incarceration, defendants may be more willing to consider a plea bargain, even if they did not commit the crime in question. Public defenders may also have an interest in having defendants plead guilty, especially given that public defender offices are underfunded, and trials are very costly. Hence, it is possible that defendants who cannot post bail may be more likely to be convicted, and, given the lack of an adequate legal defense, may also be more likely to receive a much harsher sentence than a defendant who was represented by a private attorney.

In the present study, the determinants of pretrial detention and the effects of pretrial detention on conviction and sentencing outcomes will be examined. One of the primary factors that may affect pretrial detention is the use of public defenders. In prior research, there have been mixed results regarding the effects of public defenders on the likelihood of pretrial detention. While Williams (2017, 2013) found that defendants being represented by public defenders are more likely to be detained pretrial, Hartley, Miller, and Spohn (2010) found that the type of attorney used has no statistically significant effect on pretrial detention decisions.

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It will also be examined whether or not pretrial detention has any effect on conviction or sentencing outcomes. Most prior research has found that pretrial detention increases both the likelihood of a conviction and the severity of the sentence (Stevenson, 2017; Dobbie, Goldin, Yang, 2016; Gupta, Hansman, and Frenchman, 2016; Lee, 2016; Tartaro and Sedelmaier, 2009; Williams, 2003). The present study differs from this prior research in that a much larger and much more recent data set is used to examine both the determinants of pretrial detention and the effects of pretrial detention on conviction and sentencing outcomes.

## Literature Review

One of the earliest studies on the effects of pretrial detention on conviction and sentencing outcomes was Williams (2003). This study used individual-level data from one county in Florida for the period 1994 to 1996. The final sample had 412 cases. Williams used two dependent variables: whether or not the convicted defendant went to prison and the length of prison sentence imposed. Explanatory variables included pretrial detention, type of criminal offense, number of felony charges, number of prior felony charges, type of attorney (retained or appointed), and race, gender, and age of defendant. A logistic regression was used to estimate the likelihood of a convicted defendant being incarcerated, and an OLS regression was used to estimate the determinants of length of sentence. Results indicated that defendants who were detained prior to trial were much more likely to receive a prison sentence, and they received longer prison sentences than defendants who were released on bond.

Tartaro and Sedelmaier (2009) not only examined the effects of pretrial detentions on sentencing outcomes, but also the effects that the race and ethnicity of the defendants had on the sentencing outcomes. Using data from the State Court Processing Statistics program, the authors focused on two counties in Florida for the year 1998. In addition, they only looked at defendants who either pled guilty or who were found guilty in a jury trial. Their final sample consisted of 1,652 observations. Two dependent variables were estimated: whether or not the defendant was incarcerated and the length of the incarceration. Results were mixed and depended heavily upon the use of racial interaction terms in the regression model. When no interaction terms were used, it was found that defendants who were detained pretrial were four times more likely to receive sentences of incarceration than those defendants who were released pretrial. It was also found that ethnicity, and not race, was a significant determinant of incarceration. Hispanic defendants were less likely to be incarcerated than non-Hispanic defendants. When

an interaction term between race and pretrial detention was included in the regression model, however, then pretrial detention became an insignificant predictor of sentencing outcomes. These results also held for the length of sentence model. With no interaction term, pretrial detention was positively and significantly related to longer prison sentences. When a race interaction term was used, pretrial detention became insignificant.

Dobbie, Goldin, and Yang (2016) examined the impact of pretrial release on not only convictions, but also on recidivism and future employment opportunities. Using data from Philadelphia County, Pennsylvania and Miami-Dade County, Florida for the period 2006-2014, the authors found that pretrial release decreased the probability of being found guilty by 15.6% and decreased the probability of pleading guilty by 12%. However, pretrial release increased the probability of failing to appear in court by 15% and increased the probability of re-arrest prior to case disposition by 7.6%. Finally, pretrial release greatly increased the probability of future economic success. Pretrial release increased the probability of future employment by 10.2% and increased potential future income by 8.5%.

Gupta, Hansman, and Frenchman (2016) looked at the effects of bail on conviction rates and recidivism. Using data from Philadelphia and Pittsburgh, Pennsylvania for the period 2010-2015, the authors found that the imposition of bail resulted in a 12% increase in the likelihood of conviction and a 6-9% increase in recidivism. This study differed from prior research in that an instrumental variable approach was used in order to account for the effects of individual judicial severity on the probability that bail will be imposed.

Lee (2016) used a propensity scoring methodology in order to determine if pretrial detention increased the probability of conviction and the severity of the sentence. Using data from the State Court Processing Statistics program for four counties in Florida for the years 2000, 2002, 2004, and 2006, the results indicated that males who were Hispanic and who had prior felony convictions were much more likely to be detained pretrial and that defendants who were detained pretrial were much more likely to be convicted.

Finally, Stevenson (2017) looked at data from Philadelphia in order to determine if pretrial detention affected conviction rates and sentencing outcomes. Using data for the period 2006-2013 and using a 2SLS model, it was found that pretrial detention resulted in a 6.2% increase in the likelihood of being convicted. It was also found that Black defendants were 40% more likely to be detained pretrial than were non-Black defendants.

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Regarding the effects of type of defense counsel on conviction and sentencing outcomes, Hartley, Miller, and Spohn (2010) used data from Cook County, Illinois for the year 1993. The dependent variables included the following: a dummy variable denoting whether or not the defendant had bail imposed; a dummy variable indicating whether or not the primary charge was reduced; a dummy variable indicating whether or not the defendant was imprisoned; and the length of the prison sentence imposed. Using a logistic regression and OLS, the results suggest that the type of attorney used had no effect on any of the dependent variables examined in this study.

Williams (2013) used data from four Florida counties for the year 2006 in order to determine if type of attorney used had any effect on seven different criminal case outcomes. Examining case outcomes such as whether or not bail was imposed and whether or not charges were dismissed, Williams found that defendants who were represented by public defenders were less likely to have their charges dismissed, were more likely to be detained pretrial, and were more likely to be convicted. These results contradict the findings of Hartley, Miller, and Spohn (2010).

In Williams (2017), data for the largest Florida counties were used for the period 1990-2004 in order to determine if the type of attorney used had any significant effects on various pretrial outcomes. Results were somewhat mixed. Defendants represented by public defenders were more likely to be denied bail, were less likely to be released on their own recognizance, but had lower bail amounts imposed on them.

The present study differs from this prior research in several ways. First, this study will use data from 25 states for the period 1992-2009. This is one of the largest data sets ever used to study the determinants and effects of pretrial detention on conviction and sentencing outcomes. Second, a two-stage least squares (2SLS) model will be used to estimate the likelihood of conviction and imprisonment. Given that pretrial detention may be affected by the same set of factors that affect conviction and sentencing outcomes, it may be necessary to control for the endogeneity of the pretrial detention variable.

## **Empirical Technique and Data**

The present study examines two aspects of pretrial detention. The first is the examination of the determinants of pretrial detention. The second is the effect that pretrial detention has on conviction rates and sentencing outcomes. Given that

these outcomes are binary in nature, logistic regressions will be used to estimate the determinants of these outcomes.

For the detention regression, the explanatory variables will include the following: sex, age, race, ethnicity, current involvement in the criminal justice system (probation, parole, etc.), number of prior convictions, year, region of residence, and type of attorney (public defender, assigned attorney, or private attorney). For the type of attorney variable, it is important to note that many defendants are not represented by counsel at bail hearings. These court appearances typically take place only hours after an arrest; hence, many defendants are unable to hire an attorney in such a short period of time. In addition, in many jurisdictions, bail is set according to a predetermined schedule. Hence, there is little, if any, consideration given to the income or wealth of the defendant or other extraneous factors that may affect the ability of the defendant to post bail.

For the conviction and sentencing outcome regressions, the dependent variables are a conviction dummy variable that equals one if the defendant is convicted and zero otherwise, and a prison dummy variable that equals one if the convicted person is sent to prison and zero otherwise. For the prison regression, those persons not convicted are deleted from the sample. For the conviction regression, the explanatory variables include pretrial detention, sex, race, ethnicity, number of prior convictions, year, region of residence, and type of attorney. For the prison regression, the explanatory variables include pretrial detention, violent crime conviction, sex, race, ethnicity, number of prior convictions, year, region of residence, and type of attorney.

It is important to note, however, that pretrial detention is determined by many of the same factors that affect conviction and imprisonment. In order to correct for the possible endogeneity of pretrial detention, a 2SLS model, as well as a logistic regression, are used to estimate the determinants of both conviction and imprisonment.

Given the above, the following equation is estimated for pretrial detention:

$$Y = \alpha_0 + \alpha_1 X + \alpha_2 \text{Type of Attorney} \quad (1)$$

The following equation is then estimated for both conviction and sentencing outcomes:

$$Y = \beta_0 + \beta_1 X + \beta_2 \text{Type of Attorney} + \beta_3 \text{Pretrial Detention} \quad (2)$$

In equation (2), pretrial detention will be treated as an exogenous variable in one set of regressions, and as an endogenous variable in another set of regressions. When pretrial detention is treated as an endogenous variable, then a 2SLS model will be estimated, with equation (1) being the first-stage regression and equation (2) being the second stage regression. When detention is treated as an exogenous variable, a logistic regression will be used to estimate all three equations.

All data used in the present study were obtained from the State Court Processing Statistics program, which is administered by the U.S. Department of Justice. The data collected in this program consist of felony cases originating in approximately 40 of the largest 75 counties in the United States for the years 1990-2006 and 2009. While prior studies on the topics of pretrial detention typically examined only one state and a limited number of years, the present study utilizes the entire data set. Hence, the data set used in this study covers 25 states for the period 1992-2006 and 2009. The year 1990 was deleted due to insufficient number of observations.

For purposes of the present study, all observations with missing data were deleted. For all three regressions, defendants who represented themselves (*pro se*) were deleted from the sample, and any cases still pending were also deleted. For the prison regression, defendants not convicted were deleted from the sample. The sample size for the pretrial detention and conviction regressions was 79,335, and the sample size for the prison regression was 55,172.

## Results

Descriptive statistics are presented on Table 1. For the data set used for the detention and conviction regressions, 83% of defendants were male, 29.3% were White, 43.7% were detained pretrial, 14.6% were released on their own recognizance, 60.8% were represented by public defenders, and 73.3% were convicted. For the prison regression, 15.5% were convicted of a violent offense, and 72.7% were sentenced to prison.

Results for the detention regression are presented on Table 2. Logistic and second-stage regressions for the conviction variable are presented on Table 3, and logistic and second-stage regressions for the prison variable are presented on Table 4. These results suggest that one of the most significant determinants of pretrial detention is the type of attorney the defendant has and if the defendant has an active case file in the criminal justice system. Interestingly, a defendant with an assigned attorney has a greater chance of being detained pretrial than a defendant

with a public defender or private attorney. A defendant with an assigned attorney is 23.8% more likely to be detained pretrial than a defendant with a private attorney. In addition, Hispanic male defendants who have active cases in the criminal justice system are much more likely to be detained pretrial than others.

**Table 1: Means of Variables**

Variable	Detention and Conviction Regression	Imprisonment Regression
Pretrial Detention	0.437	0.503
Convicted	0.733	1
Sentenced to Prison	**	0.727
Male	0.829	0.836
Age	30.8	30.9
African-American	0.436	0.421
Hispanic	0.247	0.256
Criminal Justice Status Active	0.332	0.364
Prior Convictions	2.87	3.14
Public Defender	0.608	0.615
Assigned Attorney	0.179	0.185
Southern States	0.322	0.288
Western States	0.348	0.411
Northern States	0.149	0.115
Violent Offense Conviction	**	0.155
Sample Size	79,335	55,172

Regarding conviction, for the logistic regression, defendants who were detained pretrial and who were represented by an assigned attorney are much more likely to be convicted than others. Defendants who were detained pretrial were 10.7% more likely to be convicted, and defendants who were represented by an assigned attorney were 2.7% more likely to be convicted.

In the two stage regression, the effect of pretrial detention on the likelihood of conviction remains positive but increases in magnitude. Defendants detained pretrial were 22.5% less likely to be convicted than others. In addition, defendants

who were represented by an assigned attorney were more likely to be convicted than others. Defendants represented by a public defender were actually less likely to be convicted than those defendants represented by a private attorney.

**Table 2: Logistic Regression, Pretrial Detention**

Variable	Coefficient and Test Statistic	Marginal Effect
Intercept	-17.904 (-5.80)***	
Male	0.608 (27.38)***	0.121
Age	-0.00265 (-3.71)***	-0.00054
African-American	0.391 (19.98)***	0.07881
Hispanic	0.541 (24.93)***	0.111
Criminal Justice Status Active	0.789 (45.11)***	0.168
Prior Convictions	0.1177 (45.56)***	0.02382
Public Defender	0.971 (43.87)***	0.194
Assigned Attorney	1.2011 (45.09)***	0.238
Southern States	0.33 (14.01)***	0.0666
Western States	0.737 (29.86)***	0.154
Northern States	-0.521 (-17.85)***	-0.104
Year	0.00758 (4.92)***	0.00153

Notes: Test statistics are in parentheses.

10% level of significance = \*; 5% level of significance = \*\*; 1% level of significance = \*\*\*

**Table 3: Conviction Regressions, Marginal Effects and Test Statistics**

Variable	Logistic Regression	2SLS (Second-Stage)
Pretrial Detention	0.107 (32.69)***	0.225 (11.08)***
Male	0.00523 (1.3)	-0.0089 (-1.92)*
Age	-0.0006 (-4.03)***	-0.00045 (-2.85)**
African-American	-0.0154 (-4.17)***	-0.0249 (-6.10)***
Hispanic	-0.01456 (-3.35)***	-0.0283 (-5.62)***
Prior Convictions	0.01128 (21.98)***	0.00742 (8.76)***
Public Defender	-0.0344 (-9.03)***	-0.0557 (-10.69)***

Assigned Attorney	0.027 (5.71)***	0.0015 (0.22)
Southern States	-0.1039 (-22.34)***	-0.112 (-22.76)***
Western States	0.1016 (21.96)***	0.0827 (14.26)***
Northern States	-0.0645 (-11.68)***	-0.0529 (-8.96)***
Year	-0.00193 (-6.59)***	-0.00204 (-6.78)***

Notes: Test statistics are in parentheses.

10% level of significance = \*; 5% level of significance = \*\*; 1% level of significance = \*\*\*

**Table 4: Imprisonment Regressions, Marginal Effects and Test Statistics**

Variable	Logistic Regression	2SLS (Second-Stage)
Pretrial Detention	0.227 (59.17)***	0.387 (16.22)***
Male	0.0566 (11.96)***	0.0336 (5.81)***
Age	-0.00092 (-5.30)***	-0.00059 (-3.13)***
African-American	0.053 (13.17)***	0.0387 (8.27)***
Hispanic	0.0516 (11.25)***	0.0374 (6.65)***
Prior Convictions	0.0217 (35.41)***	0.0166 (16.07)***
Public Defender	-0.0111 (-2.56)**	-0.0359 (-5.74)***
Assigned Attorney	0.0282 (5.31)***	-0.00464 (-0.57)
Southern States	0.0236 (5.02)***	0.0233 (4.53)***
Western States	0.153 (31.76)***	0.126 (19.65)***
Northern States	0.00048 (0.08)	0.0324 (5.14)***
Violent Offense Conviction	0.062 (13.00)***	0.099 (22.01)***
Year	0.00055 (1.65)*	0.00066 (1.81)*

Notes: Test statistics are in parentheses.

10% level of significance = \*; 5% level of significance = \*\*; 1% level of significance = \*\*\*

For the prison logistic regression, defendants who were detained pretrial, convicted of a violent offense, represented by an assigned attorney, and who were male and Black or Hispanic were more likely to be sentenced to prison than others. Pretrial detention increases the likelihood of prison by 22.7%, while the use of an assigned attorney increases the probability of a prison sentence by 2.9%.

For the two-stage regression, the results are somewhat similar except for the assigned attorney variable which becomes insignificant. In this regression,

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defendants who were detained pretrial are 38.7% more likely to be sentenced to prison. Those convicted of a violent offense were 9.9% more likely to be incarcerated, and Black and Hispanic defendants were 3.9% and 3.7% respectively more likely to be sentenced to prison than White defendants.

It is also important to note that these results corroborate most of the findings of prior research in this area. Pretrial detention typically has a negative effect on subsequent criminal case proceedings (increases the likelihood of both conviction and imprisonment). Regarding the type of attorney used, the results of the present study suggest that use of a public defender or assigned attorney increases the likelihood of pretrial detention, but the use of a public defender reduces the probability of conviction or imprisonment.

This result is interesting, because, as noted previously, many defendants are not represented at bail hearings, and even for those who are represented by counsel, many judges use bail schedules to set bail, thus eliminating any potential positive impact that representation by counsel may provide. It is also interesting to note that the magnitude of the impact of pretrial detention on the likelihood of conviction and imprisonment increases when it is assumed that pretrial detention is endogenous. Thus, if one assumes that many of the underlying factors that affect the probability of pretrial detention are the same as those that affect the probability of conviction and imprisonment, then the effect of pretrial detention on the likelihood of conviction and imprisonment increases substantially, thus highlighting the importance of the type of attorney used in pretrial hearings.

## **Conclusion**

Although there is a presumption of innocence in American criminal justice proceedings, a very large percentage of defendants are detained pretrial. This pretrial detention may adversely impact several aspects of the defendants' lives including employment, child custody, and case preparation. If a defendant is detained pretrial, it may be difficult for them to properly assist with their own defense. They may lose their jobs, thus requiring them to use a public defender or court-assigned attorney. If detained pretrial, they will be unable to help their legal counsel find witnesses or assist them in other matters related to their case. Hence, it is possible that pretrial detention may increase the probability of both being convicted and of being sentenced to prison.

In the present study, a very large data set obtained from the State Court Processing Statistics program was used to ascertain the determinants of pretrial

detention and to determine if pretrial detention increases the likelihood of conviction or incarceration. Results of this study indicate that pretrial detention increases the probability of both being convicted and being imprisoned.

Furthermore, the present study found that those defendants who used public defenders or assigned attorneys were much more likely to be subject to pretrial detention than those defendants who retained private counsel. This result is interesting in that many defendants are not represented by counsel at bail hearings, and, in many jurisdictions, judges use bail schedules to set bail, thus eliminating the possibility of counsel arguing that extenuating circumstances should be taken into consideration when setting bail.

In looking at conviction and sentencing outcomes, the present study used not only a logistic model, which has been used by many other studies in this area, but also a 2SLS model which controlled for the endogeneity of pretrial detention in the conviction and incarceration regressions. Results for both models were very similar, especially with regards to pretrial detention, race, sex, and prior interactions with the criminal justice system.

Finally, even though the type of attorney used had a significant effect on the probability of pretrial detention, its effect on conviction and sentencing outcomes was more mixed and muted. Defendants using public defenders were actually less likely to be convicted or incarcerated than those using private attorneys. However, even though the use of a public defender did not adversely affect the conviction or sentencing outcome, the use of a public defender greatly increased the probability of pretrial detention. Therefore, the use of a public defender in the initial proceedings may have adverse impacts on subsequent case outcomes.

Although this study sheds important light on the impact of pretrial detentions on conviction and sentencing outcomes, it does not address some of the underlying reasons for pretrial detention. Several important socioeconomic variables were not available in the data set used in the present study. For example, the annual income of the defendant was not available. Hence, one of the possible reasons why a defendant may have been detained pretrial may be because of their inability to make bail. In fact, according to the data used in this study, 36.2% of defendants were being detained because of their inability to post bail. Only 6.2% of defendants were denied bail. Therefore, the larger problem is the inability of defendants to make bail and not being denied bail by the court. If more defendants were able to make bail, then it is conceivable that there would be fewer convictions and fewer imprisonments. Although one cannot ascertain from the data used in this study if the defendants were under undue pressure to plead guilty, it is possible that lower income defendants who were unable to post bail and hire a private attorney may

have been more inclined to plead guilty and accept a prison sentence. Hence, income is undoubtedly a very important factor in the pretrial detention decision, but that issue cannot be examined in the present study due to data limitations. This is an area that should be explored in greater detail in future research.

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