

# The marginal effect of bail decisions on failure to appear, imprisonment and crime

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Applied Research in Crime and Justice Conference

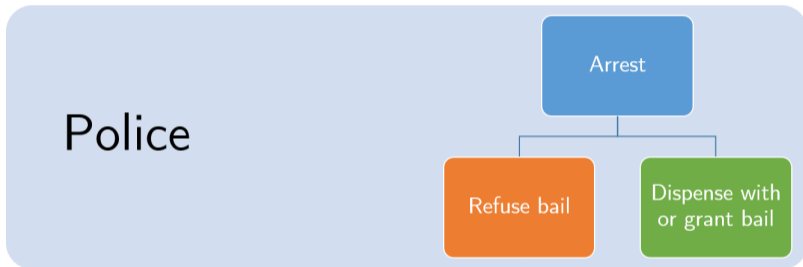
February 2019



NSW Bureau of Crime  
Statistics and Research

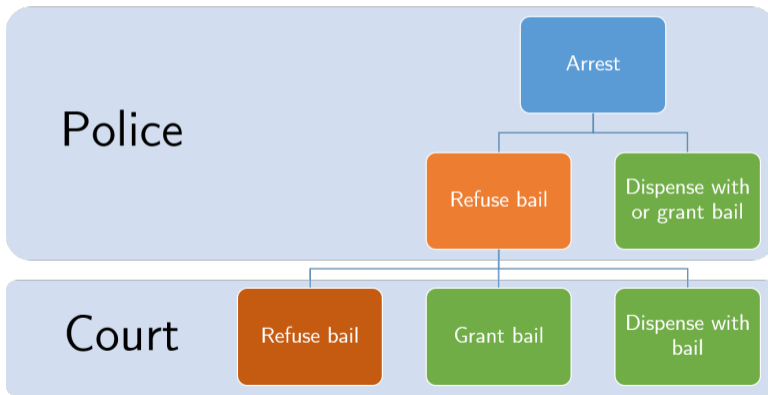
# Introduction

How does bail work in NSW?



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Why do bail decisions matter?

## Risks of granting bail:

Defendant not appearing in court

Defendant committing crime

Interfering with witnesses/evidence

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Why do bail decisions matter?

## Risks of granting bail:

- Defendant not appearing in court
- Defendant committing crime
- Interfering with witnesses/evidence

## Costs of refusing bail:

- Costs of housing the offender in prison
- Personal costs for the defendant
- Potential signal of their criminality

# Introduction

The research question

We want to know:

What is the **incapacitation** effect of bail decisions on:

Failure to appear

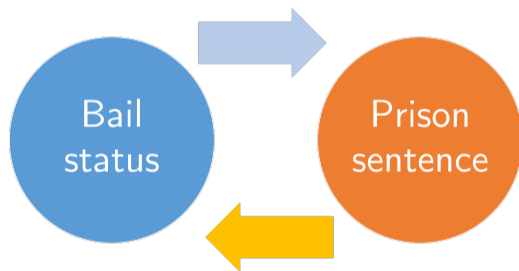
Offending on bail

What is the **signaling** effect of bail decisions on prison sentences?



# Introduction

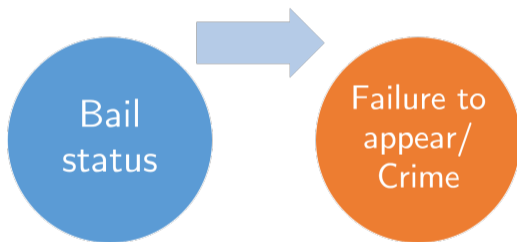
Why is bail hard to study?





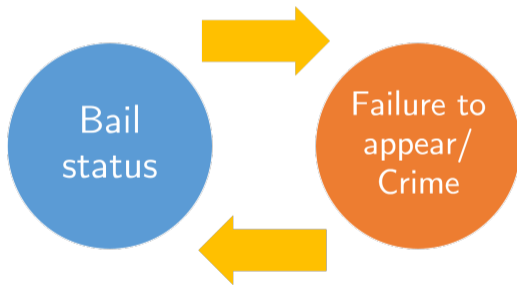
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Recent research

Gupta, Hansman, and Frenchman (2016) -  
Journal of Legal Studies

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Bail refusal:

- Increased likelihood of conviction

- No effect on recidivism

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Dobbie, Goldin, and Yang (2018) -  
American Economic Review

Release on bail:

- Reduced likelihood of pleading guilty

- Reduced likelihood of a prison penalty

- Increased likelihood of failure to appear

- Increased likelihood of re-offending up to disposition but reduces that after disposition

# Introduction

Recent research

## Didwania (2018) - Working paper

**THE IMMEDIATE CONSEQUENCES OF PRETRIAL DETENTION:  
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STEPHANIE HOLMES DIDWANIA\*

February 17, 2018

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### Release on bail:

67 per cent reduction in sentence length (1.1 months)

Increases probability of a below-guidelines sentence by 67.6 percentage points

## Section 2

### Method



# Data

## Dataset construction

### JusticeLink database

- First bail hearings
  - Magistrate
  - Date
  - Outcomes
  - Charges

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### JusticeLink database

- First bail hearings
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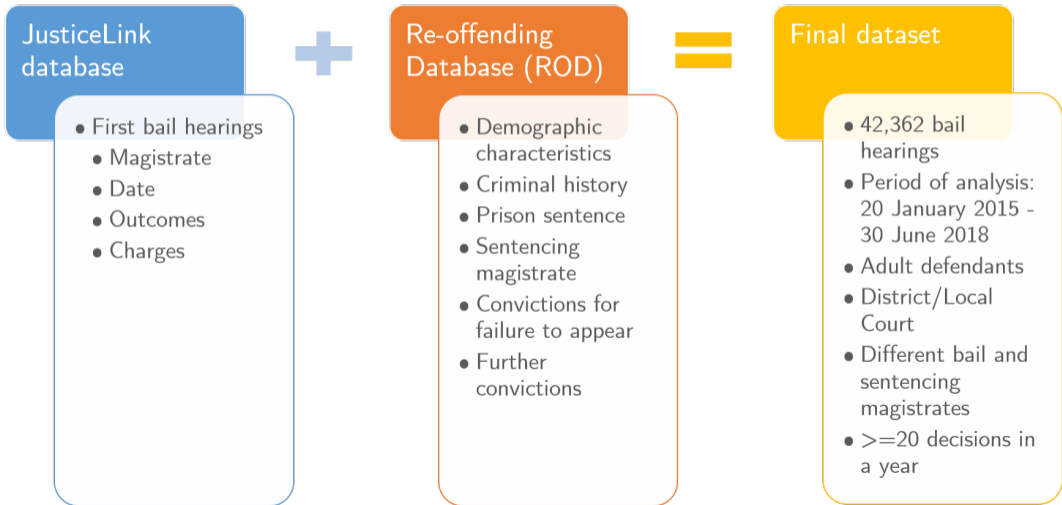


### Re-offending Database (ROD)

- Demographic characteristics
- Criminal history
- Prison sentence
- Sentencing magistrate
- Convictions for failure to appear
- Further convictions

# Data

## Dataset construction



# Data

## Outcome variables

### Failure to appear

Convicted of a failure to appear offence at finalisation

### Offending on bail

Committed an offence between bail hearing date and finalisation

### Imprisonment

Sentenced to imprisonment at finalisation

# Data

Treatment variable

A dummy variable for whether a person was **granted** bail (with or without conditions) at their first court bail hearing

# Data

Control variables

## Demographics

Age, Indigenous status, gender, SEIFA, remoteness

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Offences (violent, property, drug, breach, traffic, other)



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### Index charge

Violent, property, drug, traffic, other

### Priors

Penalties (Custodial, community orders, other)

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### Fixed effects

Principal offence, time, location (court location, jurisdiction and police area)

# Method

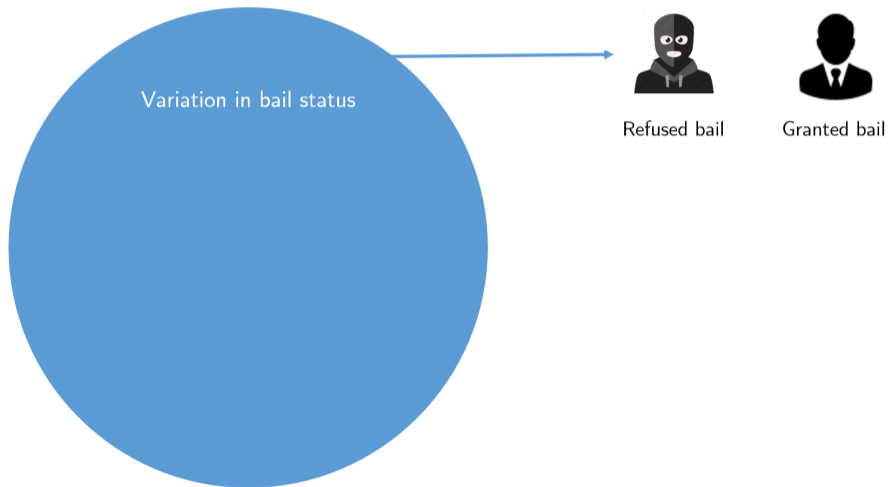
Instrumental variables estimation



Variation in bail status

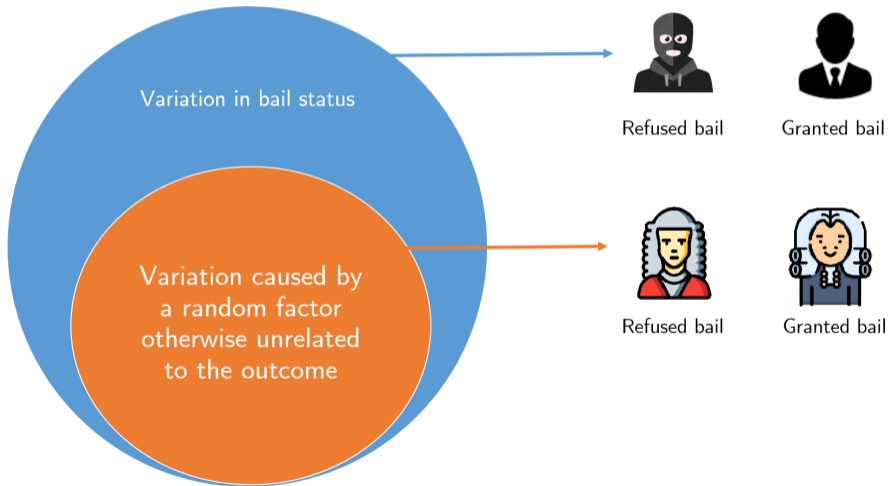
## Method

Instrumental variables estimation



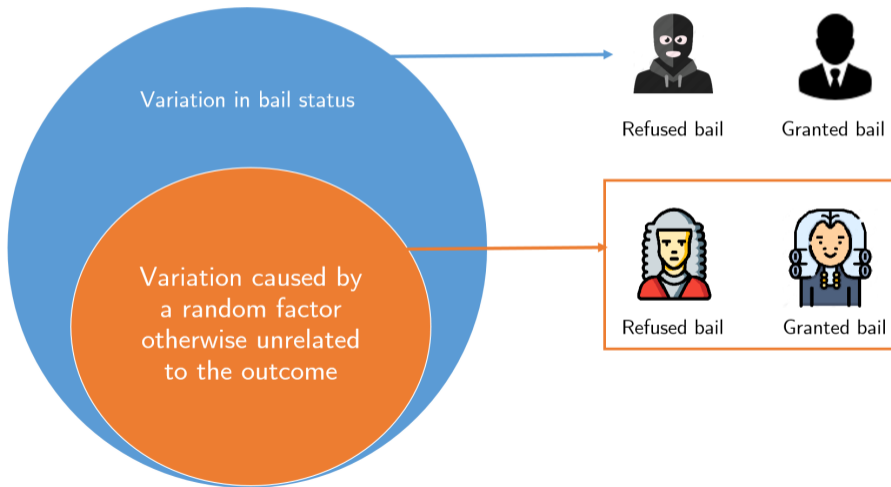
# Method

## Instrumental variables estimation



# Method

## Instrumental variable estimation



## Ordinary Least Squares (OLS) estimation

Estimate the effect of **being granted bail** on the outcome

$$Y_i = \alpha_0 + \alpha_1 T_i + X_i + \epsilon_i$$

$T_i$  = whether someone is granted bail

$X_i$  = individual-level controls

$\epsilon_i$  = fixed effects

$\epsilon_i$  = error

## Two-stage-least-squares (2SLS) estimation

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$$Y_i = \alpha_0 + \alpha_1 \hat{T}_i + \alpha_2 X_i + \epsilon_i \quad (2)$$

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$Z_i$  = judge leniency

$\hat{T}_i$  = predicted probability of being granted bail

$X_i$  = individual-level controls

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#### Residualised leave-one-out IV

A measure of the judge's leniency relating to all other cases than the index individual, adjusted for offence, location and time fixed effects

$$IV_i^* = \frac{R_j^*}{D_j} \frac{R_{ij}^*}{D_{ij}}$$

where  $j$  is a judge,  $i$  is a person,  $R$  are the sum of residuals of the decision to grant bail,  $D$  is the sum of bail decisions

# Method

## Tests of IV

### Relevance of IV

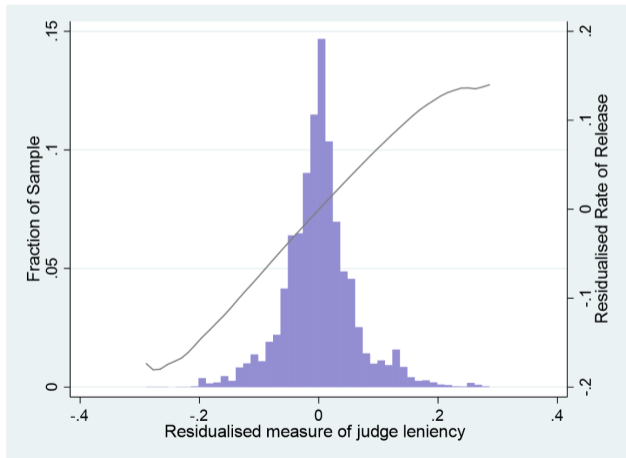
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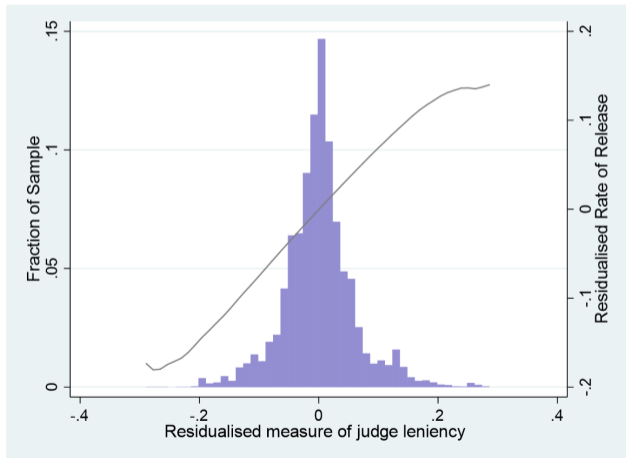
## Other tests of IV

### Relevance of IV

The IV should be significantly related to the likelihood of release

Positive relationship observed

Partial F of first stage: 291.84



### Randomness

The IV is unrelated to individual characteristics ( $F=1.18$ ,  $p\text{-value}=.179$ )



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The direction of the effect of the IV on being granted bail is consistent across subgroups

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### Exclusion restriction

The IV should not affect the outcome other than through the bail decision

- Defendants do not choose their bail judges

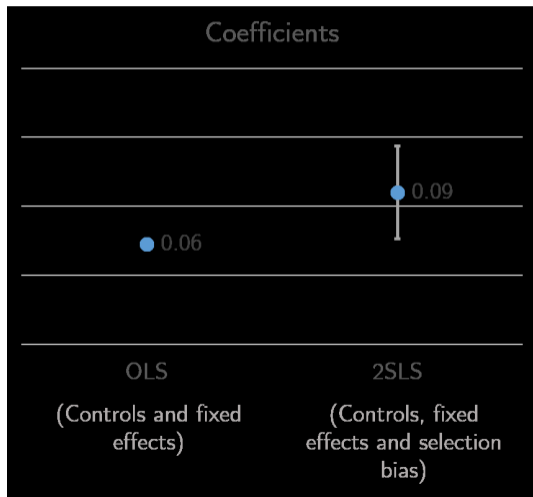
- We exclude all defendants with the same bail and sentencing judge

## Section 3

### Results

# Estimation results

Failure to appear



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Failure to appear

2SLS estimates a 9 percentage point increase in likelihood of failure to appear from granting bail

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This translates to a rate of failing to appear of 10.9% for additional releases compared to an average of 2.1% among those refused

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There is an incapacitation effect of bail refusal on failure to appear



# Estimation results

O ending on bail

OLS and 2SLS estimates are virtually identical

# Estimation results

O ending on bail

There is a significant effect of bail refusal on reducing crime

# Estimation results

## Imprisonment

2SLS attenuates effect of granting bail on imprisonment from 20 percentage points to 10

# Estimation results

## Imprisonment

2SLS attenuates effect of granting bail on imprisonment from 20 percentage points to 10

Once correcting for selection bias, the signalling effect of bail refusal on prison is 10 percentage points

# Estimation results

## Imprisonment

This translates to an average rate of imprisonment of 49 per cent on additional released defendants

# Estimation results

Robustness checks

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## Robustness checks

### Misspecification of outcome variable

Replicated analyses using probit and bivariate probit (Chiburis, Das, & Lokshin, 2012)

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Followed procedure to check complier-weighted OLS (Dahl, Kostol, & Mogstad, 2014)



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Not sensitive to changing number of minimum judge decisions to 30

### Subgroup analyses

District and Local Court

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### Previous policy regime

Consistent when estimating on Pre-Bail Act 2013 data

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Limitations

Important to keep in mind that this relates to a small subset of offenders in NSW

Did not study post-finalisation offending