

# Did the 2013 Bail Act increase the risk of bail refusal?

## Evidence from a Quasi-Experiment in New South Wales

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### APPENDIX A

Table A1 checks the robustness of our main results (reported in Table 3 of the main report). Table A1 presents Difference-in-Differences (DiD) estimates for the effect of the policy change on our two outcome variables. Row 1 presents DiD estimates for the effect of the policy change on the probability of police refusing bail, and Row 2 presents DiD estimates for the effect of the policy change on the probability of the courts refusing bail. Table A1 presents estimates from ten different robustness checks.

Column 1 estimates Equation 1 using a Probit regression and presents average marginal effects for the DiD coefficient in each Row. Column 1 indicates that the policy change has increased the probability of being bail refused by the police and the courts by 2.2 and 1.2 percentage points, respectively. The sizes of these

estimates are larger than the Ordinary Least Squares (OLS) estimates from the main report. This is likely driven by the fact that Maximum Likelihood Estimation requires us to drop clusters with no variation in the dependant variable from the sample during estimation causing us to lose 11 courts in Row 1 and 17 courts in Row 2.<sup>1</sup>

Column 2 proceeds as if the policy change occurred one year prior to its actual introduction and then treats periods between 20 May 2013 and 20 May 2014 as the post-policy period. This is a useful exercise as it allows us to test the model's capacity to account for volatility in bail refusal rates. While we find no effect for the police bail decision, we do find a significant effect for the courts bail decision. This is problematic as it indicates that our model may be unable to account for the volatility in the bail refusal rates.

**Table A1. Main robustness checks for overall effect**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Outcome variable in Rows	Probit	Placebo	Six month interval	Twelve month interval	Restricted control group	Full sample	Random appearance	Linear trends	Seasonal interaction	Change in penalties
Police refuse bail	0.022*** (0.004)	0.002 (0.002)	-0.004 (0.003)	0.006*** (0.002)	0.007*** (0.002)	0.001 (0.002)	-0.000 (0.002)	0.001 (0.004)	0.007*** (0.002)	0.009** (0.004)
Courts refuse bail	0.012*** (0.003)	0.004** (0.002)	0.006** (0.002)	0.008*** (0.002)	0.007*** (0.002)	0.005*** (0.002)	0.003** (0.001)	0.005 (0.003)	0.008*** (0.002)	0.007** (0.003)
N	432,452†	234,054	108,001	205,134	430,726	501,123	277,228	434,994	434,994	501,123
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Offence FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Time FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Court FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
LAC FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Note. N = Number of observations, DiD = Difference-in-Differences, LAC = Local Area Command, FE = Fixed Effects, † = 432, 452 observations for Row 1 and 428,723 observations for Row 2, cluster robust standard errors in parentheses, standard errors are clustered at the LAC level in Row 1 and the court level in Row 2. There are 76 LACs across all columns, 136 courts in column 1-Row 1, 130 courts in column 1-Row 2, and 147 courts in columns 2-10. DiD coefficients and their standard errors presented in column 1 are average marginal effects.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.01$ .

Columns 3 and 4 restrict the sample to 6 and 12 month intervals on either side of the policy change. The effect for the court’s decision is fairly consistent across both intervals while the police decision is only significant for the 12 month interval. This is plausibly due police taking a longer time to familiarise themselves with the risk assessment procedure as described in the main report.

Column 5 removes bail hearings for which the primary charge is one where we are unable to determine whether or not the defendant is accused of a minor offence.<sup>2</sup> These estimates are consistent with the main results.

Column 6 re-introduces bail hearings occurring in the nine months between the introduction of the Act and the SC amendments. Inclusion of these (pre-policy) months results in no meaningful change to the estimates for the court bail decision. As one would expect given the explanation of Figure 1 in the main report, this does change the results for the police bail decision.

Column 7 restricts the sample to a set of (randomly selected) unique defendants.<sup>3</sup> The effect for the police decision is now insignificant. The effect for the court decision remains significant although the effect size and level of significance is smaller than that reported in the main results. Intuitively this makes sense as Column 7 effectively assigns an equal weight to each individual defendant, while in our main specification; defendants with multiple appearances (whom are also more likely to be refused bail) receive a proportionally higher weight.

Column 8 builds on Equation 1 through the inclusion of a LAC specific linear trend in Row 1, a court specific linear trend in Row 2, and an offence specific linear trend in both Rows. This is a useful exercise as it allows us to test whether or not our results are robust to natural trends in bail refusal rates that may differ across LACs, courts and offence type. Unfortunately, both estimates for the police and court bail decisions are now insignificant.

Column 9 replaces the time FEs with a set of year dummies and an interaction between a vector of seasonal dummies and the LAC or court FEs in Rows 1 and 2, respectively. This allows us to control seasonal effects that may differ across LACs and courts. Estimates for both the police and court decisions are consistent with those in the main results.

Column 10 addresses concerns regarding a (post policy) change in the penalties associated with non-minor offences driving the main results. We address these concerns through the inclusion of a full set of interaction terms between our pre/post indicator and the vector of maximum penalty dummy variables described in Equation 1. We find no meaningful deviation from our main results in this robustness check.

Table A2 checks the robustness of the significance of our main results by employing a variety of different standard errors. Column 1 employs classical standard errors that assume homoskedasticity, Column 2 switches to heteroskedasticity robust standard errors, Column 3 clusters at the offence level, Column 4 clusters at the LAC level, Column 5 clusters at the court level and Column 6 employs two-way clustering at both the court and LAC level. The significance of our results is robust across all specifications in Table A2.

Table A3 presents the average bail refusal rate for selected groups of defendants both before and after the policy change. Table A3 contains three Panels. Panel A) presents average bail refusal rates for defendants accused of any offence. Panel B) presents average bail refusal rates for defendants accused of a minor offence. Panel C) presents average bail refusal rates for defendants accused of a non-minor offence. Within each Panel are two Rows. Rows 1 and 2 present the police and court bail refusal rate, respectively. Table A3 contains six Columns; Column 1 presents the refusal rate for all defendants, Column 2 presents this rate for defendants under the age of 18 at the time their

**Table A2. Different standard errors for overall effect**

Outcome variable in Rows	(1)	(2)	(3)	(4)	(5)	(6)
	None	Robust	Offence	LAC	Court	LAC & Court
Police refuse bail	0.008*** (0.002)	0.008*** (0.002)	0.008** (0.001)	0.008*** (0.002)	0.008** (0.003)	0.008** (0.003)
Courts refuse bail	0.008*** (0.002)	0.008*** (0.001)	0.008** (0.000)	0.008*** (0.001)	0.008*** (0.002)	0.008*** (0.002)
<i>N</i>	434,994	434,994	434,994	434,994	434,994	434,994
Individual controls	YES	YES	YES	YES	YES	YES
Offence FE	YES	YES	YES	YES	YES	YES
Time FE	YES	YES	YES	YES	YES	YES
Court FE	YES	YES	YES	YES	YES	YES
LAC FE	YES	YES	YES	YES	YES	YES

Note. *N* = Number of observations, LAC = Local Area Command, FE = Fixed Effects, standard errors in parentheses.

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A3. Before vs. after: Average bail refusal rates by bail authority**

	(1)		(2)		(3)		(4)		(5)		(6)	
	Overall		Juveniles		Female		Indigenous		No prior proven offences		At least one prior prison sentence	
	Before	After	Before	After	Before	After	Before	After	Before	After	Before	After
<b>Panel A) All Offences</b>												
Police refuse bail	0.131	0.123	0.172	0.143	0.077	0.073	0.251	0.231	0.066	0.076	0.331	0.302
Courts refuse bail	0.063	0.063	0.077	0.063	0.030	0.028	0.136	0.130	0.025	0.033	0.210	0.198
N	234,094	200,973	20,046	14,404	46,710	41,746	45,083	39,232	92,731	87,466	43,861	40,528
<b>Panel B) Minor Offences</b>												
Police refuse bail	0.034	0.025	0.057	0.027	0.022	0.014	0.096	0.060	0.014	0.012	0.147	0.097
Courts refuse bail	0.136	0.012	0.021	0.012	0.006	0.005	0.045	0.033	0.004	0.004	0.073	0.061
N	40,728	33,035	3,539	2,501	8,337	6,798	5,722	4,778	20,424	16,987	4,830	4,546
<b>Panel C) Non-minor Offences</b>												
Police refuse bail	0.152	0.142	0.197	0.168	0.088	0.084	0.274	0.255	0.081	0.091	0.353	0.328
Courts refuse bail	0.073	0.073	0.089	0.073	0.033	0.033	0.149	0.144	0.031	0.040	0.226	0.215
N	193,366	167,938	16,507	11,903	38,373	34,948	39,361	34,454	72,307	70,479	39,031	35,982

Note. N = Number of observations.

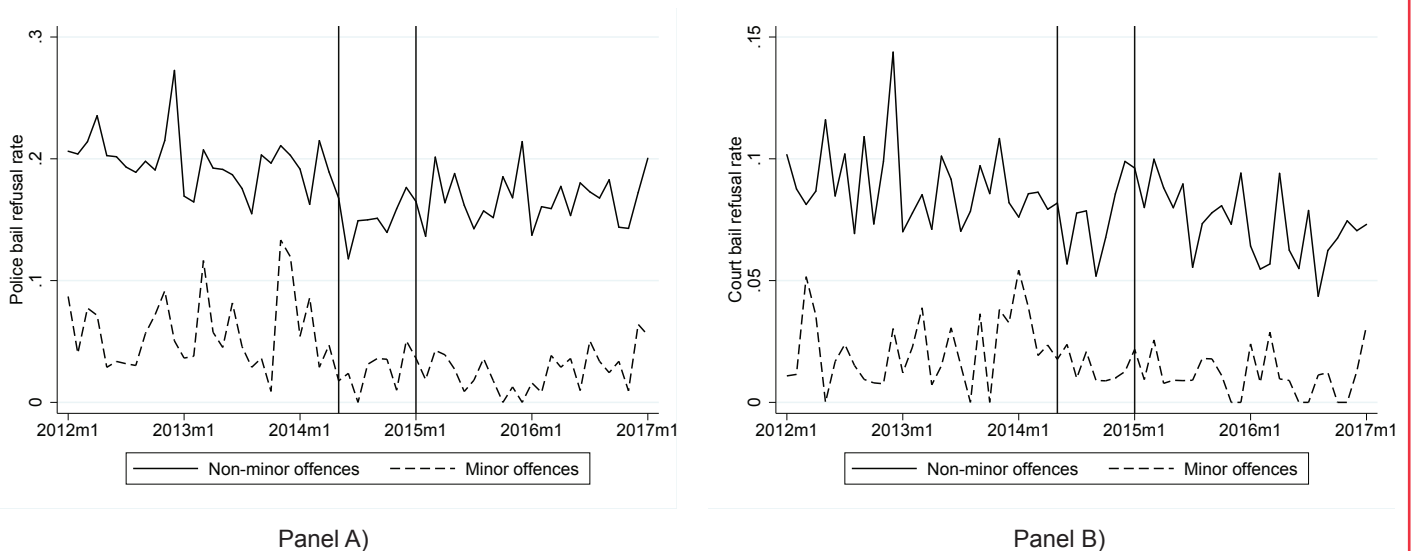
matter is finalised, Column 3 refers to female defendants, Column 4 refers to Indigenous defendants, Column 5 refers to defendants with no prior proven offences, and finally, Column 6 refers to defendants with at least one prior prison sentence. Within each Column are two sub-columns. The left column presents the pre-policy refusal rate while the right column presents the post-policy refusal rate. Table A3 doesn't provide much information above and beyond that contained in the various Figures throughout the main report and Appendix B. The purpose of Table A3 is to support the calculations presented in the main report when interpreting the relative effect size of the policy change.

**APPENDIX B**

**Juvenile defendants**

Figure B1 investigates the validity of the common trends assumption for our estimate of the policy's effect on defendants aged 18 or below at the time their matter is finalised. Panel A) investigates the validity of this assumption for our estimates of the policy change's effect on the police bail decision; Panel B) on the court's decision. With respect to both Panels, the average bail refusal rate for non-minor offences is given by the solid line, and the average bail refusal rate for minor offences is given by

**Figure B1. Common trends for juvenile defendants**



the dashed line. Introduction of the Bail Act 2013 (NSW) and the Show Cause (SC) amendments are given by the two vertical lines in May 2014 and January 2015, respectively. Note that all Figures presented below follow an identical setup.

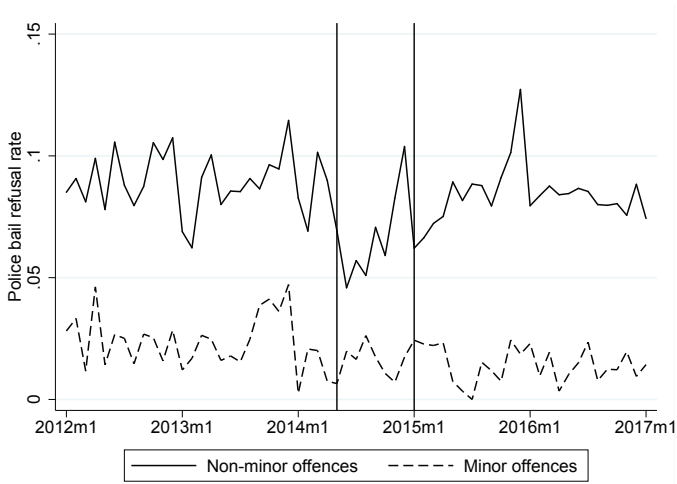
Figure B1 provides convincing evidence that DiD may not be the appropriate tool for answering our research question. The treated series on both Panels appear to follow downward ex-ante trends, while the control series exhibits no clear trend in either direction. Worst still, the non-treated series from Panel A) clearly experiences a sharp decrease in levels right around the time the Act was introduced. This is consistent with Figure 2 in the main

report where we argue that the risk assessment framework (which is essentially just a simplification of s.32 of the old Bail Act) has induced police to grant bail more often and more consistently to defendants accused of minor offences.

**Female defendants**

Panel A) of Figure B2 is not promising for our DiD setup. The control series is clearly lower following the policy change. Panel B) is more promising as the minor offence series appears unaffected by the policy change and the two series share common pre-policy trends.

**Figure B2. Common trends for female defendants**

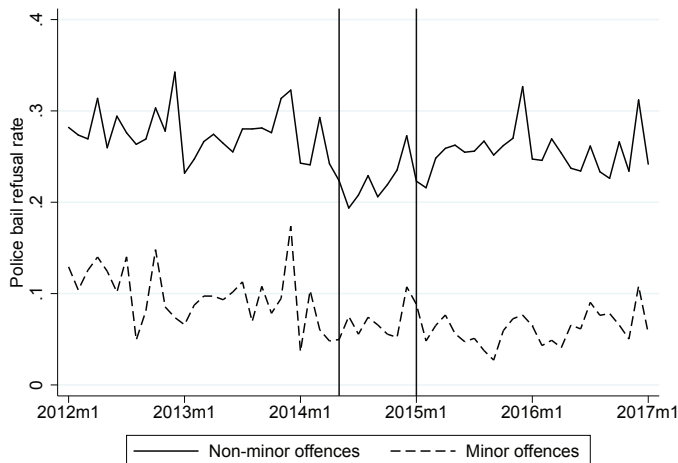


Panel A)

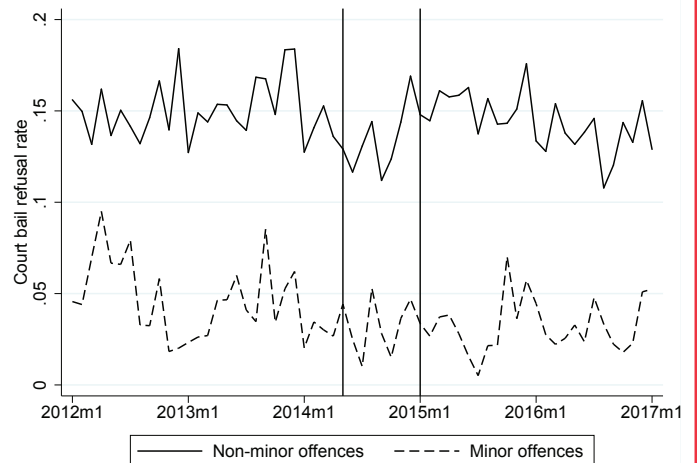


Panel B)

**Figure B3. Common trends for Indigenous defendants**



Panel A)



Panel B)

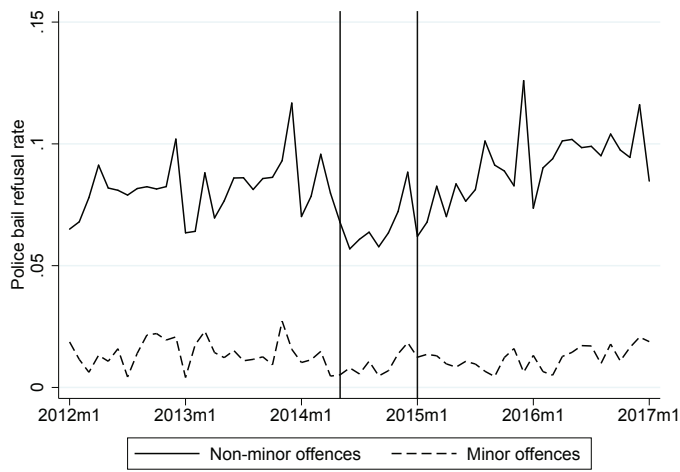
**Indigenous defendants**

Figure B3 indicates that our identifying assumption doesn't appear to hold for either outcome measure. While the two series from Panel A) arguably share common pre-policy trends, we can see a clear drop the control series after the policy change. While this particular issue doesn't appear to carry over to Panel B), what is problematic is that now the treatment and control series don't share common pre-policy trends. The treatment series looks to be trending neither up nor down, while the control series is clearly trending downward. Taken together, these issues could explain why our DiD estimates are so large for Indigenous defendants in Table 4 of the main report.

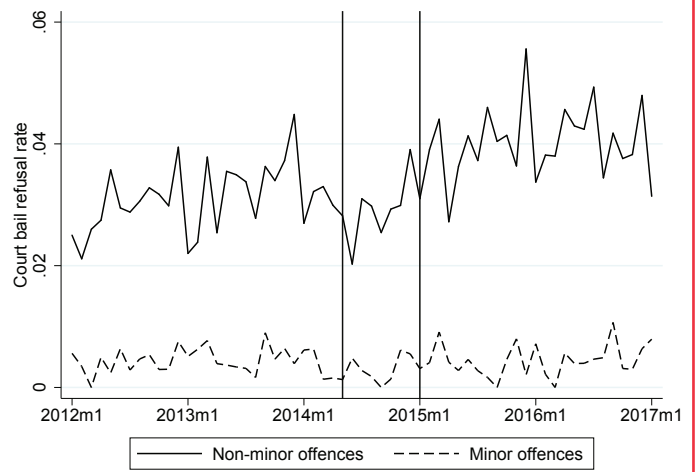
**Defendants with no prior proven offences**

On balance Figure B4 supports our DiD design. The pre-policy common trends assumption appears to hold across both Panels and interestingly neither control series appears to change following the introduction of the policy. This suggests that the policy change may have only affected police decision making for defendants accused of a minor offence that have at least one prior proven outcome. We can also see a clear increase in levels for the treatment series post-policy which is consistent with the estimates presented in Table 4 of the main report.

**Figure B4. Common trends for defendants with no prior proven offences**

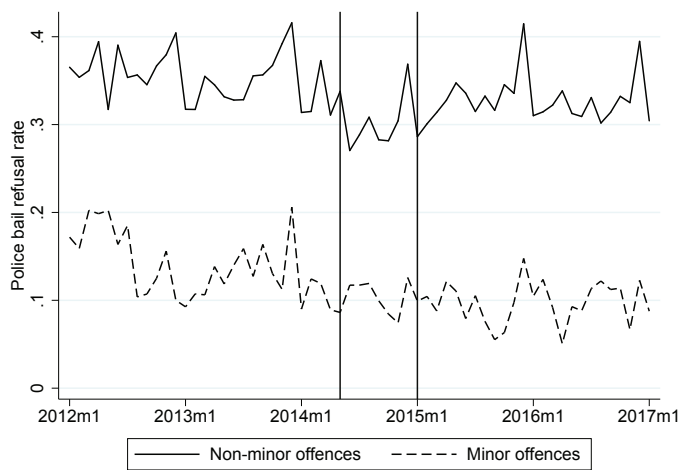


Panel A)

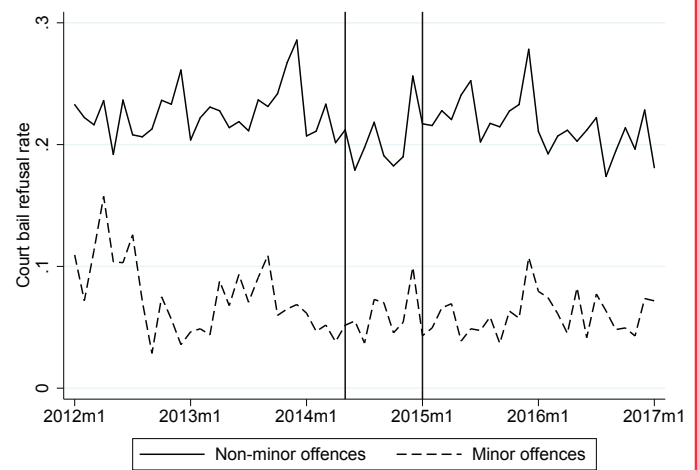


Panel B)

**Figure B5. Common trends for defendants with at least one prior prison sentence**



Panel A)



Panel B)

## Defendants with at least one prior prison sentence

Figure B5 indicates that the treatment and control series share common ex-ante trends. That said, Panel A) appears to suffer from the problem of a change in police bail decisions for minor offences following the policy change, while Panel B) supports our choice of control group.

Figure B5. Common trends for defendants with at least one prior prison sentence

## NOTES

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- 1 One may be tempted to argue that the difference between estimates is driven by the difference in estimation method. However as outlined in Angrist & Krueger (2001), OLS estimators have a causal interpretation that is robust to non-linearities induced by binary dependent variables. The main advantages presented by competing non-linear models are incurred when the objective is prediction not causal inference.
- 2 As outlined in the main report these cases make up about six per cent of our control group. These cases occur for defendants accused of obscene exposure, violent disorder, offences relating to knives and offensive implements, custody of a laser pointer and loitering near premises frequented by children by specific types of repeat offenders (which we are unable to identify in our sample). Interested readers are directed to Section 21 of the Bail Act 2013 (NSW) for further details.
- 3 That is, when a defendant appears more than once in our sample because they have multiple finalised court appearances, we select a single appearance at random and discard the remaining bail hearings for that defendant.

## REFERENCES

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Angrist, J., & Krueger, A. B. (2001). Instrumental variables and the Search for Identification: From Supply and Demand to Natural Experiments. *Journal of Economic Perspectives*, 15(4), 69-85.