

# The Role of Ethnicity in Criminal Behavior

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**NEW ZEALAND  
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## Disclaimer

The results in this paper are not official statistics, they have been created for research purposes from the Integrated Data Infrastructure (IDI) managed by Statistics New Zealand. The opinions, findings, recommendations and conclusions expressed in this paper are those of the author(s) not Statistics NZ.

Access to the anonymised data used in this study was provided by Statistics NZ in accordance with security and confidentiality provisions of the Statistics Act 1975. Only people authorised by the Statistics Act 1975 are allowed to see data about a particular person, household, business or organisation and the results in this paper have been confidentialised to protect these groups from identification.

Careful consideration has been given to the privacy, security and confidentiality issues associated with using administrative and survey data in the IDI. Further detail can be found in the Privacy impact assessment for the Integrated Data Infrastructure available from [www.stats.govt.nz](http://www.stats.govt.nz).

# Introduction

## The paper in a nutshell

- ▶ Policies  $\Rightarrow$  understanding of how individuals react to certain events
- ▶ Reacting to an event: majority group  $\neq$  minority groups (e.g., ethnicity)  $\Rightarrow$  policy potentially ineffective
- ▶ This study: behavioral differences in parental criminality between ethnic groups
- ▶ In particular: the gender of the first child on young father's subsequent criminal behavior
- ▶ Finding: stark ethnic divide (relevant only for the white part of the population)

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# Background

## Related literature

- ▶ Age-crime curve: peak late-teens/early-twenties
- ▶ Criminal record at a young age  $\Rightarrow$  long-term scars
- ▶ Important events (marriage/fatherhood) can have an impact on criminal activities
- ▶ Cautious when interpreting 'turning points' as causal (not random)



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Growing literature on the effect of the child gender:

- ▶ Women with first-born girls are less likely to marry and more likely to divorce (though with ethnic differences) (Dahl & Moretti, 2008; Mammen 2008)
- ▶ Young fathers reduce their criminal activity if the first-born child is a boy (Dustmann & Landersø, 2018)

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## Research question

- ▶ **Has the gender of the first-born child an effect on the criminal behaviour of young fathers in New Zealand?**
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# Data and sample selection

## Integrated Data Infrastructure (IDI)

- ▶ Department of Internal Affairs (DIA) ⇒ birth register
  - ▶ Link parents to their children
  - ▶ Sample: males who father their first child between the age of 18 and 21
- ▶ Ministry of Justice ⇒ crime data
  - ▶ Offence type, date of offence, etc.
  - ▶ Seriousness of sentence (based on ANZSOC code)
  - ▶ *Serious sentence*: Most serious sentence is imprisonment, home or community detention, community work, supervision.
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- ▶ Personal Details file (Stats NZ generated) ⇒ demographic characteristics
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- ▶ Border movement data ⇒ ensure person is physically present inside New Zealand
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## Sample

- ▶ Period covers the years between 2003 and 2019
- ▶ Restrict to live-born singleton first child births
- ▶ Father: observed for a minimum of two consecutive years before the child was born and up to ten years post-child birth
- ▶ Fathers whose first child was born between January 2005 and June 2009
- ▶ 8 085 fathers (4 404 NZ European, 3 681 Māori)

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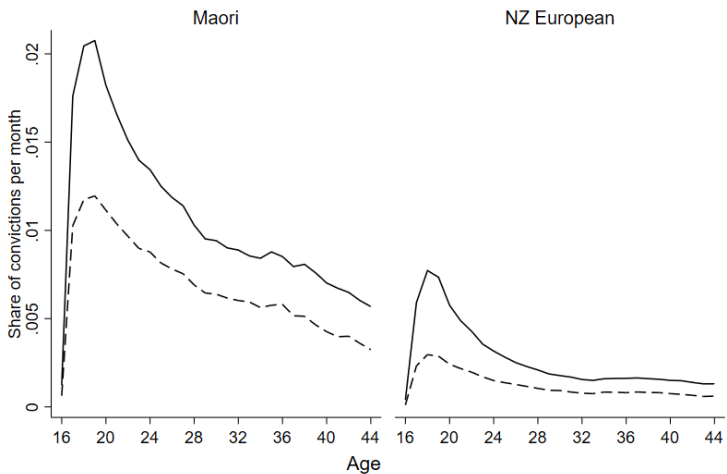
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# Descriptive statistics - The sample

## Crime and fatherhood in New Zealand

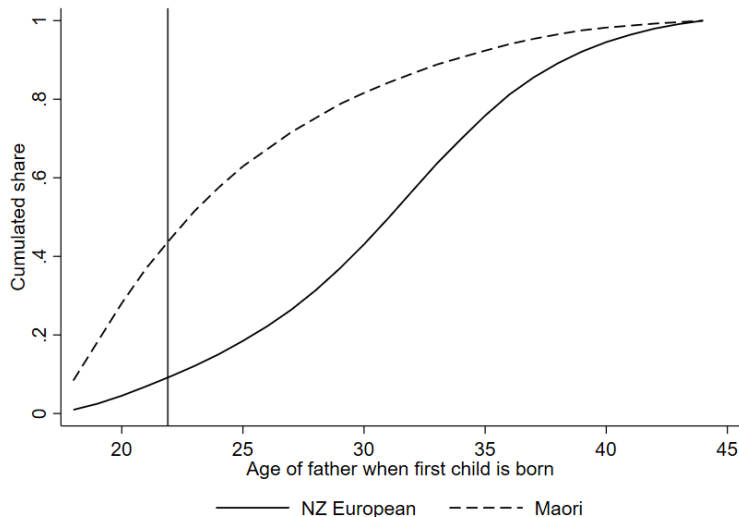
**Figure:** Monthly share of individuals with a conviction (January 2005 - June 2009)



# Descriptive statistics - The sample

## Crime and fatherhood in New Zealand

Figure: Age when first child was born (January 2005 - June 2009)



# Descriptive statistics - The sample

## Summary statistics prior to child birth (pooled sample)

	Main sample		Population <sup>†</sup>
	mean	<i>p</i> -value boy vs. girl	mean
	(1)	(2)	(3)
<i>Panel A: baseline characteristics</i>			
Age	19.69 (1.08)	0.629	30.34 (6.28)
Income	9.44 (1.24)	0.657	10.45 (1.14)
Months employed	8.61 (3.69)	0.633	10.04 (3.24)
Months benefits	1.61 (3.24)	0.459	0.60 (2.20)
Married	0.03 (0.03)	0.743	0.38 (0.24)
<i>Panel B: convictions</i>			
Convictions	0.26 (0.46)	0.921	0.06 (0.24)
Serious convictions	0.14 (0.36)	0.673	0.03 (0.18)

*Notes:* The table shows means and in parentheses standard deviations for the pooled sample of NZ Europeans and Māori. Age and marriage status refer to the time of birth of the child. Wage is measured as the log of the average monthly wage one year before birth. Employment and benefits are measured as the average number of months in the respective state the year before birth. Crime information refer to the share of individuals with convictions during the year before birth. <sup>†</sup>Accounts for all NZ European and Māori men who had their first child born between the age of 18 and 44. Statistics refer to first child.

# Descriptive statistics - The sample

## Summary statistics prior to child birth (by ethnicity)

	Main sample				Population <sup>†</sup>	
	NZ European		Māori		NZ European	Māori
	mean	<i>p</i> -value boy vs. girl	mean	<i>p</i> -value boy vs. girl	mean	mean
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: baseline characteristics</i>						
Age	19.84 (1.05)	0.989	19.52 (1.09)	0.364	31.18 (5.89)	24.96 (5.99)
Income	9.67 (1.12)	0.791	9.14 (1.33)	0.539	10.58 (1.04)	9.61 (1.34)
Months employed	9.41 (3.39)	0.488	7.55 (3.80)	0.282	10.33 (3.09)	8.61 (3.77)
Months benefits	1.30 (2.96)	0.276	1.99 (3.50)	0.897	0.38 (1.78)	1.98 (3.65)
Married	0.05 (0.05)	0.881	0.01 (0.01)	0.804	0.43 (0.25)	0.09 (0.08)
<i>Panel B: convictions</i>						
Convictions	0.22 (0.43)	0.715	0.30 (0.48)	0.749	0.04 (0.19)	0.21 (0.42)
Serious convictions	0.12 (0.34)	0.696	0.17 (0.39)	0.301	0.02 (0.14)	0.13 (0.34)

*Notes:* The table shows means and in parentheses standard deviations differentiating between NZ Europeans and Māori. Age and marriage status refer to the time of birth of the child. Wage information is measured as the log average monthly wage one year before birth. Employment and benefits are measured as the average number of months in the respective state one year before birth. Crime information refer to the share of individuals with convictions during the year before birth. <sup>†</sup>Accounts for all NZ European and Māori men who had their first child between the age of 18 and 44. All statistics refer to the first-born child.

## Empirical strategy

$$y_{it}^r = \alpha + \beta \cdot \text{Son}_i + X_i' \gamma + u_{it}, \quad (1)$$

where  $\text{son}_i$  is an indicator equal to 1 if the child is a boy, and zero otherwise.  $y_{it}^r$ :

1. count the number of convictions from birth
2. estimate probability models of having convictions  $t$  years after birth

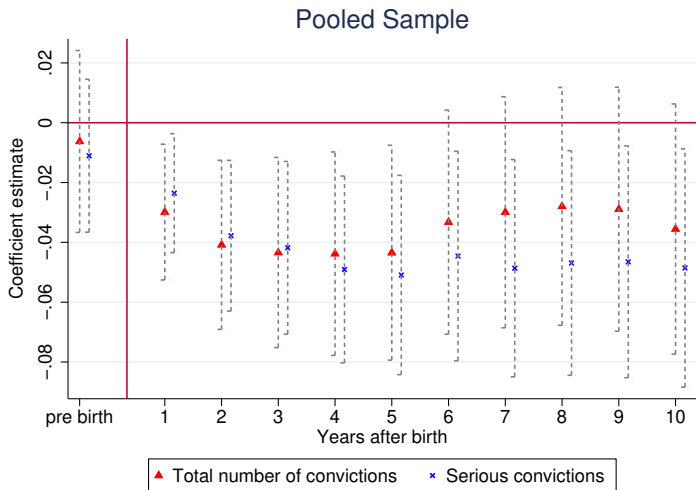
As for the accumulated number of convictions, we log the outcome variable up to time  $t$  and add a value of 1. In this case, our outcome variable is:

$$y_{it}^r = \log\left(\sum_0^t \text{convictions}_{it} + 1\right), \quad (2)$$

with  $t \in \{0, \dots, 10\}$ .

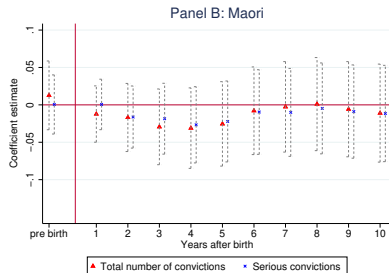
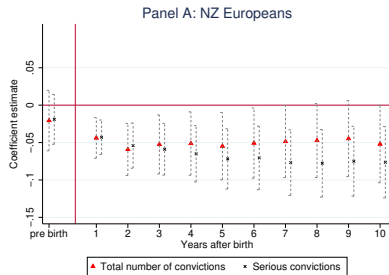
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## Child-gender related difference in conviction rates



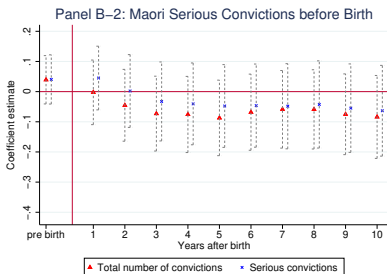
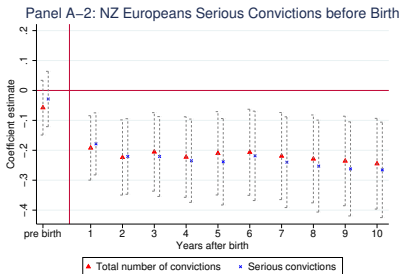
# Results

## Child-gender related difference in conviction rates by ethnicity



# Results

Child-gender related difference in conviction rates by ethnicity and pre-birth criminal record





# Results

## Ethnic differences in conviction rates

Testing systematic differences in conviction rates between the two ethnic groups:

- ▶ No significant impact of the ethnicity on the likelihood of being convicted
- ▶ Conviction rates are similar for the same type of offence
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# Labor market performance, education, and marriage

	Accumulated Income (1)	Mean wage (2)	Months employed (3)	Month benefits (4)	Married (5)	Education (6)
<b>Panel A-1: Total sample NZ Europeans</b>						
Son	0.019 (0.032)	0.007 (0.013)	0.012 (0.023)	0.045 (0.049)	0.046*** (0.017)	-0.012 (0.021)
Observations	4 404	4 404	4 404	4 404	4 404	4 404
<b>Panel A-2: Total sample Māori</b>						
Son	-0.001 (0.0344)	0.001 (0.017)	-0.001 (0.030)	-0.019 (0.042)	-0.004 (0.011)	0.020 (0.023)
Observations	3 681	3 681	3 681	3 681	3 681	3 681
<b>Panel B-1: Pre-birth serious convictions sample NZ Europeans</b>						
Son	0.261** (0.113)	0.083** (0.042)	0.178** (0.077)	-0.179** (0.085)	0.026 (0.028)	-0.026 (0.051)
Observations	717	717	717	717	717	717
<b>Panel B-2: Pre-birth serious convictions sample Māori</b>						
Son	0.026 (0.114)	-0.005 (0.041)	0.031 (0.080)	-0.035 (0.069)	0.013 (0.016)	0.027 (0.052)
Observations	807	807	807	807	807	807

*Notes:* The table reports the results of the gender of the child on various labor market indicators, the probability of marriage, and enrolled in formal/non-formal tertiary qualifications at government-funded tertiary education organisations differentiated by ethnic group. Each coefficient corresponds to a separate regression. Accumulated income refers to the sum of monthly income from wages and salaries (log transformed). Mean wage refers the mean monthly income from wages and salaries (log transformed). Employed months are based on receiving income from wages and salaries (log transformed). Benefits refers to the number of months having received benefits. Marriage is a binary indicator on being married. Education is a binary indicator on being enrolled at tertiary education since birth of the child (only including individuals who were not enrolled before birth of the child). OLS regressions in columns (1) to (4). Probit regressions in columns (5) to (6). Robust standard errors in parentheses, significance level: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

## Discussion and Conclusions

- ▶ Aim: showing that ethnicity react very differently to major life events like the birth of a child
- ▶ We demonstrate stark ethnic divide:
  - ▶ For NZ Europeans, total convictions drop by 5% points
  - ▶ Pronounced for those with any pre-birth criminal record (13% points)
  - ▶ Māori population: all estimations are close to zero and not statistically significant

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