The Role of Ethnicity in Criminal Behavior

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AUT School of Economics Seminar

April 23, 2021

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Disclaimer

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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Related literature

▶ Age-crime curve: peak late-teens/early-twenties

▶ Criminal record at a young age ⇒ 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?**

▶ Are there ethnic differences between Māori & NZ European?

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- ▶ Are there ethnic differences between Māori & NZ European?

Background

U.S. & NZ population statistics by ethnicity

	United States		New Zealand	
	Black (1)	White (2)	Māori (3)	NZ European (4)
Panel A: Labor force status				
In the labor force	0.713	0.809	0.782	0.890
Unemployed	0.152	0.072	0.150	0.039
Panel B: Personal income				
< 25K	0.583	0.390	0.384	0.214
> 100K	0.035	0.110	0.027	0.139
Panel C: Family size				
> 5 own family members	0.175	0.151	0.206	0.111
Panel D: Crime				
Property crime (per 10 000)	100.39	46.34	477.08	73.40
Violent crime (per 10 000)	44.38	13.15	507.19	81.74

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) work, supervision, monetary fines, deferment, and others
  ▶ 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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Data and sample selection
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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Descriptive statistics - The sample
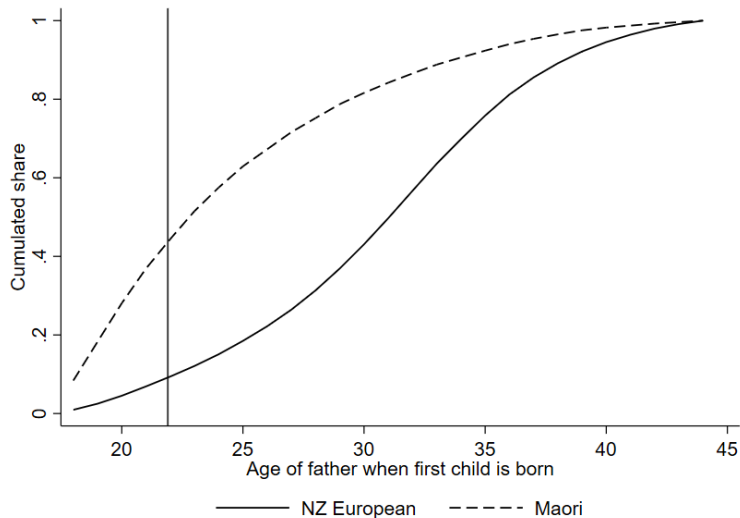
Crime and fatherhood in New Zealand

Figure: Monthly share of individuals with a conviction (January 2005 - June 2009)
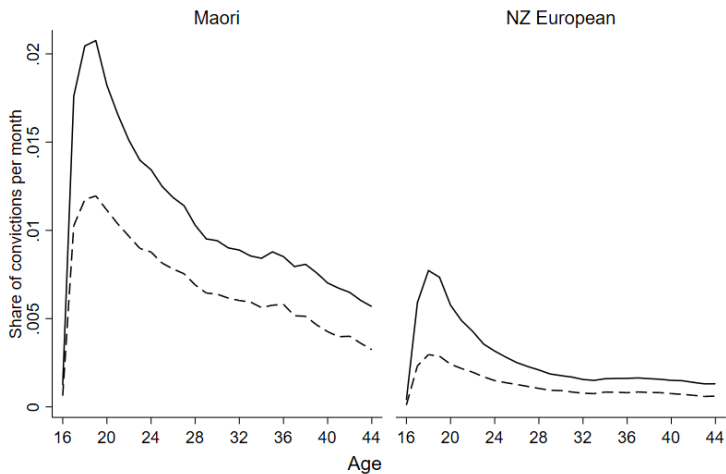
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Figure: Age when first child was born (January 2005 - June 2009)

Descriptive statistics - The sample

Summary statistics prior to child birth (pooled sample)

	Main sample		Population[†]
	mean	p-value boy vs. girl	mean
	(1)	(2)	(3)
Panel A: baseline characteristics			
Age	19.69	0.629	30.34
	(1.08)		(6.28)
Income	9.44	0.657	10.45
	(1.24)		(1.14)
Months employed	8.61	0.633	10.04
	(3.69)		(3.24)
Months benefits	1.61	0.459	0.60
	(3.24)		(2.20)
Married	0.03	0.743	0.38
	(0.03)		(0.24)
Panel B: convictions			
Convictions	0.26	0.921	0.06
	(0.46)		(0.24)
Serious convictions	0.14	0.673	0.03
	(0.36)		(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. [†]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[†]	
	NZ European		Māori		NZ European	Māori
	mean	p-value boy vs. girl	mean	p-value boy vs. girl	mean	mean
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: baseline characteristics						
Age	19.84	0.989	19.52	0.364	31.18	24.96
	(1.05)		(1.09)		(5.89)	(5.99)
Income	9.67	0.791	9.14	0.539	10.58	9.61
	(1.12)		(1.33)		(1.04)	(1.34)
Months employed	9.41	0.488	7.55	0.282	10.33	8.61
	(3.39)		(3.80)		(3.09)	(3.77)
Months benefits	1.30	0.276	1.99	0.897	0.38	1.98
	(2.96)		(3.50)		(1.78)	(3.65)
Married	0.05	0.881	0.01	0.804	0.43	0.09
	(0.05)		(0.01)		(0.25)	(0.08)
Panel B: convictions						
Convictions	0.22	0.715	0.30	0.749	0.04	0.21
	(0.43)		(0.48)		(0.19)	(0.42)
Serious convictions	0.12	0.696	0.17	0.301	0.02	0.13
	(0.34)		(0.39)		(0.14)	(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. [†]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.

Descriptive statistics - Conviction rates around birth

Child-gender related difference in conviction rates
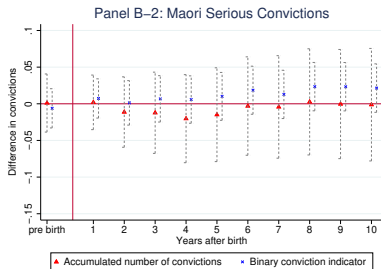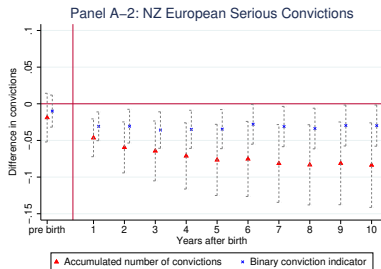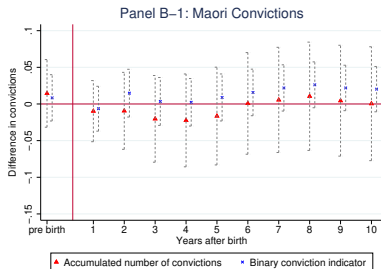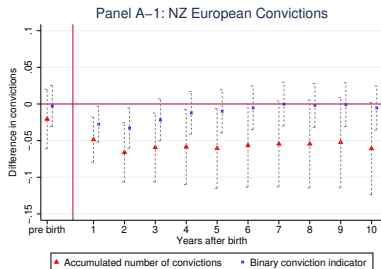
Empirical strategy

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

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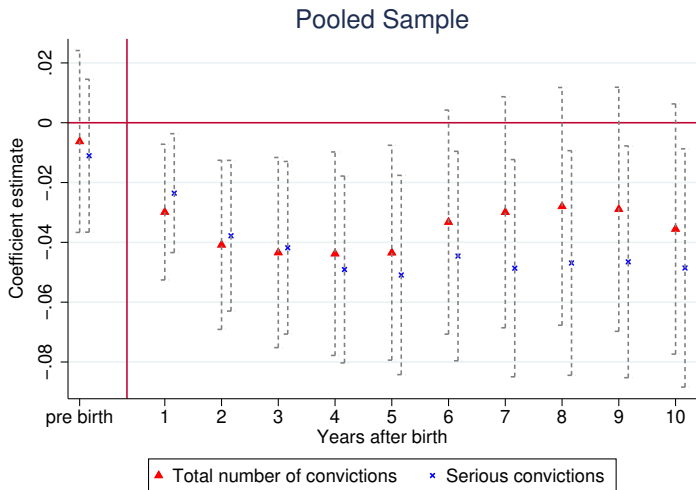
As for the accumulated number of convictions, we log the outcome variable up to time t and add a value of 1. In this case, our outcome variable is:

$$y_{it}^r = \log(\sum_0^t \text{convictions}_{it} + 1), \qquad (2)$$
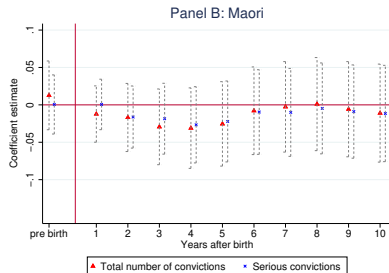
with $t \in \{0, \dots, 10\}$.

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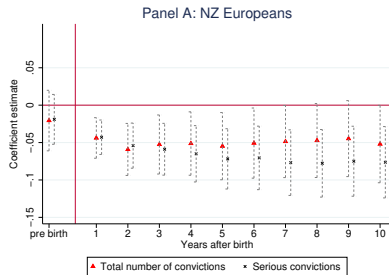
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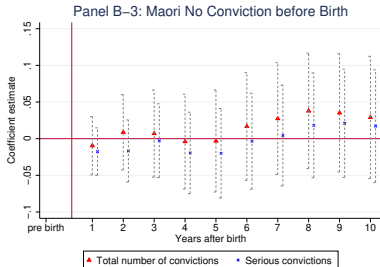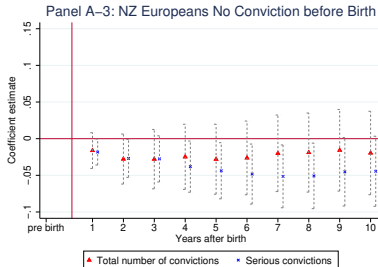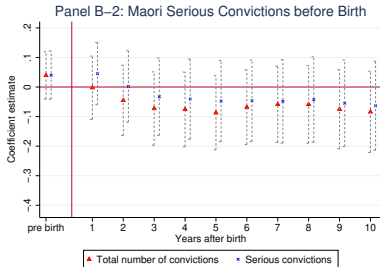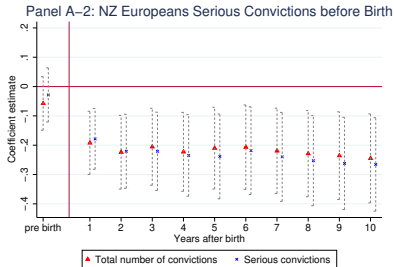## Child-gender related difference in conviction rates by ethnicity

Results

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

Results

Regional deprivation

	NZ European			Māori		
	# conviction	P(conviction)	Δ(deprived)	# conviction	P(conviction)	Δ(deprived)
	(1)	(2)	(3)	(4)	(5)	(6)
Highly deprived areas (deprivation score: 9 or 10)						
Full sample						
Son	-0.112**	-0.041	-0.073**	-0.031	-0.004	-0.014
	(0.053)	(0.025)	(0.029)	(0.042)	(0.020)	(0.021)
N	1 122	1 122	1 080	2 184	2 184	2 079
Serious conviction before birth						
Son	-0.316**	-0.130***	-0.067	0.041	0.008	-0.023
	(0.150)	(0.050)	(0.069)	(0.094)	(0.026)	(0.043)
N	228	228	228	510	510	486

Notes: The table shows the gender related difference (boy vs. girl) based on OLS regressions differentiated by the Social Deprivation Index. Individuals are assigned into high/low deprived areas at the time of child birth. The first two columns within each ethnic group provide results of serious convictions 10 years after birth. Columns (3) and (6) provides the result of a change in the local deprivation index of the neighborhood 10 years after child birth. Each coefficient corresponds to a separate regression. # conviction refers to the log-transformed accumulated number of convictions. P(conviction) refers to an indicator variable taking the value of 1 if number of convictions are above zero and 0 otherwise. Δ(deprived) refers to an indicator variable taking the value of 1 if neighborhood has a deprivation score of 9 or 10 and 0 otherwise. Columns (1) to (3) correspond to all NZ Europeans and those with at least one serious pre-birth conviction. Columns (4) to (6) correspond to all Māori and those with at least one serious pre-birth conviction. Robust standard errors in parentheses, significance level: *** p<0.01, ** p<0.05, * p<0.1.

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)
Panel A-1: Total sample NZ Europeans						
Son	0.019	0.007	0.012	0.045	0.046***	-0.012
	(0.032)	(0.013)	(0.023)	(0.049)	(0.017)	(0.021)
Observations	4 404	4 404	4 404	4 404	4 404	4 404
Panel A-2: Total sample Māori						
Son	-0.001	0.001	-0.001	-0.019	-0.004	0.020
	(0.0344)	(0.017)	(0.030)	(0.042)	(0.011)	(0.023)
Observations	3 681	3 681	3 681	3 681	3 681	3 681
Panel B-1: Pre-birth serious convictions sample NZ Europeans						
Son	0.261**	0.083**	0.178**	-0.179**	0.026	-0.026
	(0.113)	(0.042)	(0.077)	(0.085)	(0.028)	(0.051)
Observations	717	717	717	717	717	717
Panel B-2: Pre-birth serious convictions sample Māori						
Son	0.026	-0.005	0.031	-0.035	0.013	0.027
	(0.114)	(0.041)	(0.080)	(0.069)	(0.016)	(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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