

Child Penalties and Marriage Dissolution

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TE KĀHUI RANGAHAU MANA TAURITE

Disclaimer

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.
<https://www.stats.govt.nz/integrated-data/>.

Motivation

- ▶ Arrival of first child has a negative impact on women's labour market careers → *child penalty* (Kleven et al., 2019a, 2019b; Nielsen et al., 2004)
- ▶ Child penalties observed on wages, labour market participation, hours working etc.
- ▶ Recent research focuses on underlying cause:
 - ▶ Gender norms (Kleven, 2022)
 - ▶ Biological reasons discarded (Andresen Nix, 2022; Kleven et al., 2021)
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Why marital status matters

- ▶ Divorce increases economic costs (no economics of scale or income pooling)
- ▶ Changing role for divorced mothers: both breadwinner and caregiver
- ▶ Less likely to have subsequent children
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Our contribution

- ▶ First paper to investigate the relationship between civil status and child penalty
- ▶ Extremely rich population-wide New Zealand administrative data
- ▶ Our findings:
 - ▶ Overall child penalties seven years after child's birth are -33% for employment and -40% for earnings
 - ▶ Mothers divorced: -5% (vs. -32%) and -13% (vs. -41%)
 - ▶ Provide evidence for economic need as driver

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Data and Descriptive Statistics

- ▶ Statistics New Zealand's (StatsNZ) Integrated Data Infrastructure (IDI)
- ▶ Large range of administrative data primarily provided by government agencies and linked on the individual level
- ▶ IDI datasets used:
 - ▶ Department of Internal Affairs (DIA) birth records → child born between 2007 and 2015
 - ▶ DIA holds marriage and divorce records → parents who were married before the child's birth.
 - ▶ Treated group: divorced within first seven years after the child's birth (legal requirement is to be separated or live apart from each other for at least two years).
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Descriptive Statistics

	Mothers			Fathers		
	Married (1)	Divorced (2)	<i>t</i> -stat (3)	Married (4)	Divorced (5)	<i>t</i> -stat (6)
Age	29.68 (4.24)	29.65 (4.74)	0.163 (0.870)	31.55 (4.95)	32.34 (5.43)	-3.722*** (0.000)
Bachelor's degree or above	0.273 (0.445)	0.207 (0.406)	3.437*** (0.000)	0.136 (0.343)	0.077 (0.268)	4.011 (0.000)
Employed	0.862 (0.345)	0.840 (0.367)	1.493 (0.135)	0.794 (0.405)	0.760 (0.427)	1.916* (0.056)
Earnings (in NZ\$)	5,144 (2628)	4,736 (2287)	3.321*** (0.000)	6,066 (2944)	5,501 (2769)	3.909 (0.000)
Marriage length (in years)	1.923 (2.316)	1.983 (2.657)	-0.608 (0.543)			
Having a second child [†]	0.788 (0.409)	0.350 (0.477)	25.010*** (0.000)			
Individuals	38,922	555		38,922	555	

Note: IDI and authors' calculations. Descriptive statistics refer to 12 months before birth of the first child. Divorced parents have their divorce recorded within the first seven years after the child's birth. [†] Within seven years after the birth of the first child. Numbers in parenthesis are standard deviations in columns (1), (2), (4) and (5) and *p*-values in columns (3) and (6).

Empirical strategy

- ▶ We follow Kleven et al. (2019b, 2021)
- ▶ Tracking the labour market outcomes of parents from 60 months (5 years) before the birth of the first child until 84 months (7 years) after
- ▶ Tracking two groups
 - ▶ Those whose marriage is not legally dissolved within the first seven years after childbirth (*control* group)
 - ▶ Parents who have a recorded divorce within the first seven years after the child's birth (*treatment* group).

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Empirical strategy

We apply the following specification:

$$Y_{it}^g = \alpha^g \mathbf{D}_{it}^{Event} + \beta^g \mathbf{D}_{it}^{Age} + \gamma^g \mathbf{D}_{it}^{Year} + \delta^g \mathbf{D}_{it}^{Month} + v_{it} \quad (1)$$

We then calculate the percentage effect P :

$$P_t^g \equiv \frac{\hat{\alpha}_t^g}{E[\hat{Y}_{it}^g|t]} \quad (2)$$

where

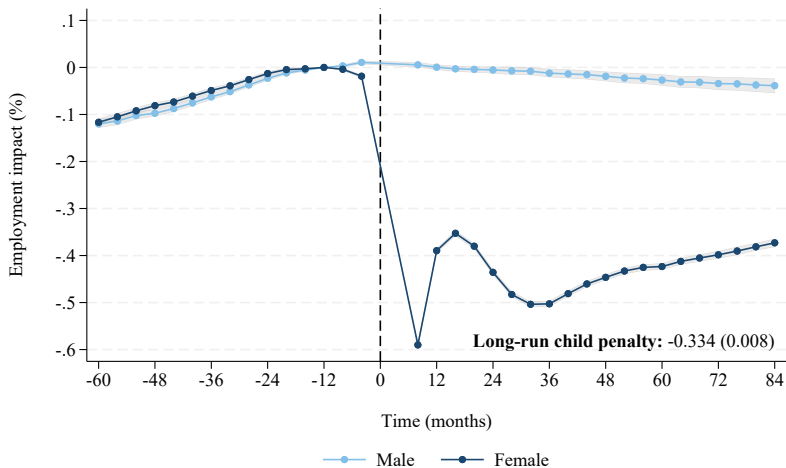
- ▶ $\hat{Y}_{it}^g$ is the predicted outcome without the life-cycle trends, time trends and monthly fluctuations.
- ▶ P_t^g is calculated separately for each time point, mothers and fathers, and marital status.
- ▶ The difference between fathers and mothers $\rightarrow$ size of the child-penalty effect.

Empirical strategy

- ▶ Parents who get divorced after the child's birth and those who stay married differ in their observable characteristics
- ▶ Follow Kleven et al. (2021) by re-weighting the sample:
 1. The child was born before 2012;
 2. The mother was aged below 30 years at the time of the birth;
 3. The mother has a Bachelor's degree;
 4. The mother had a second child within the next seven years after the first child birth.

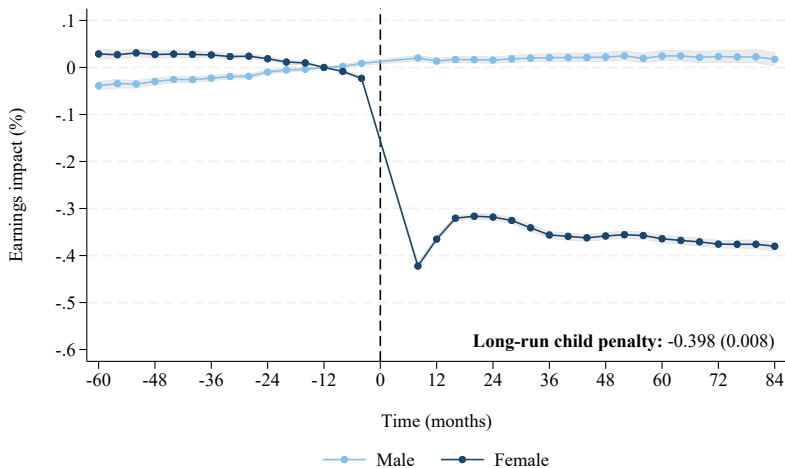
Results

The child penalty in New Zealand on employment, 2002–2022



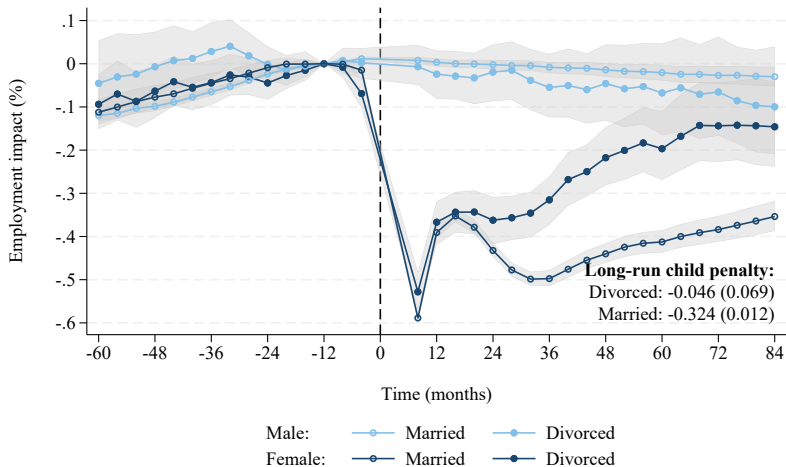
Results

The child penalty in New Zealand on earnings, 2002–2022



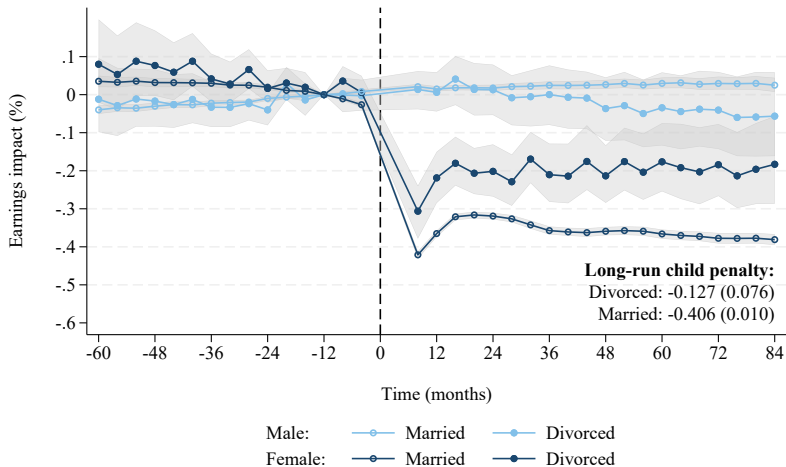
Results

The child penalty in New Zealand on employment by marital status, 2002–2022



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The child penalty in New Zealand on earnings by marital status, 2002–2022



Mechanisms

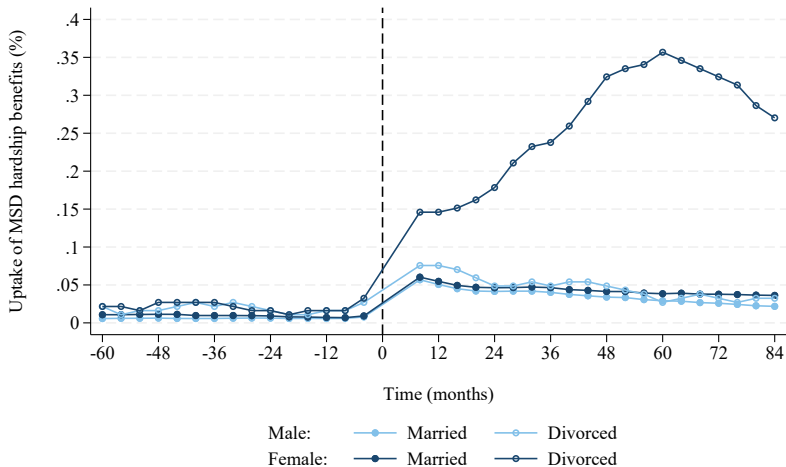
Annual household income below \$50,000

Months since childbirth	Married Families	Divorced	
		Mothers	Fathers
-33 to -12	0.042	0.072	0.035
-11 to 12	0.048	0.068	0.046
13 to 24	0.090	0.265	0.137
25 to 36	0.065	0.180	0.070
37 to 48	0.063	0.274	0.066
49 to 60	0.062	0.464	0.138
61 to 72	0.068	0.410	0.128
73 to 84	0.069	0.457	0.157
Total	72 939	1 014	1 023

Note: IDI and authors' calculations. The table shows the fraction of households reporting an annual household income of below NZ\$50k in the 2013 and 2018 Census. Note that each individual reports their annual household income twice, which doubles the number of observations. The months since childbirth refers to the difference between Census date (March 2013, resp. 2018) and child's birth date.

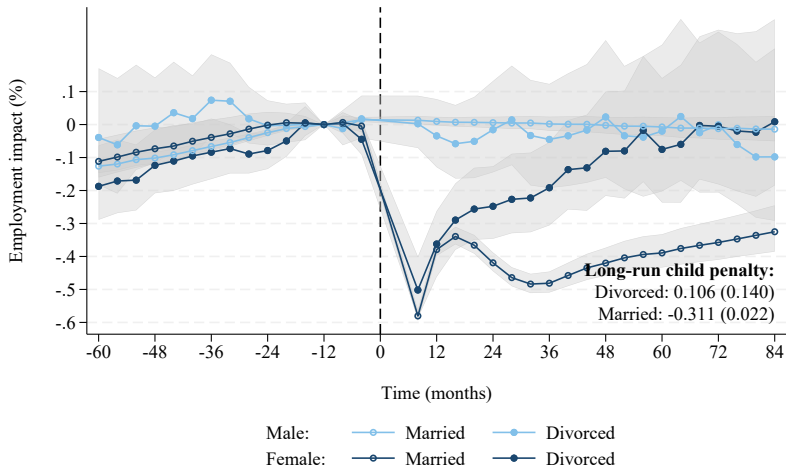
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MSD hardship benefit uptake, New Zealand, 2002–2022



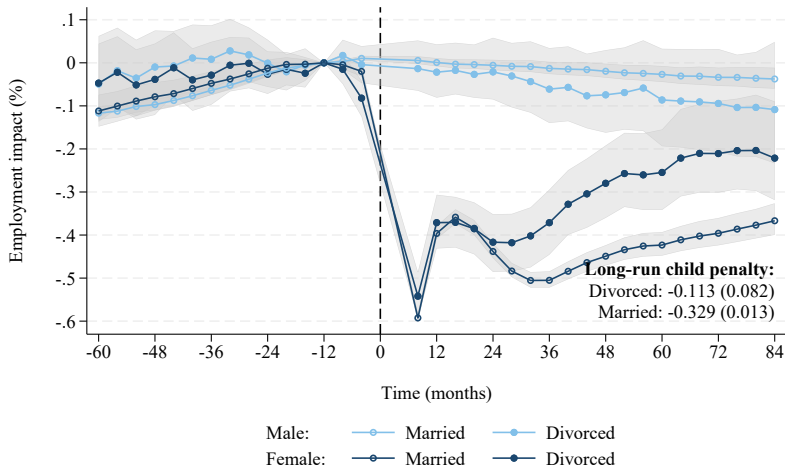
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Child penalty by marital status and divorce timing in New Zealand (early divorce on employment), 2002–2022



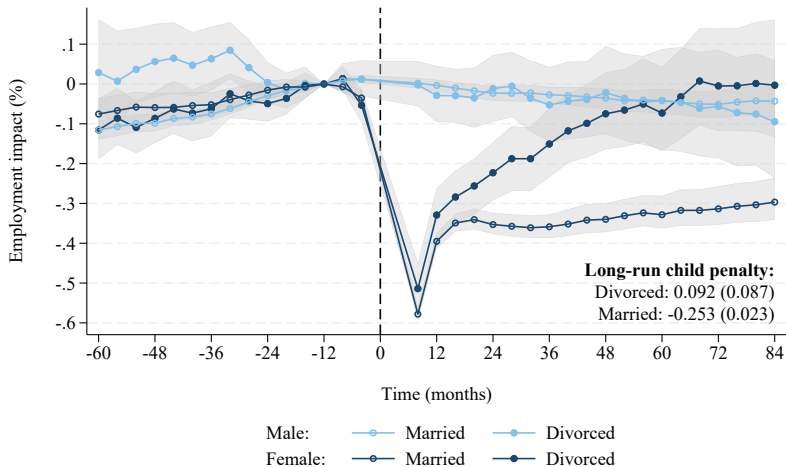
Mechanisms

Child penalty by marital status and divorce timing in New Zealand (late divorce on employment), 2002–2022



Mechanisms

Child penalty by marital status and single child in New Zealand (on employment), 2002–2022



Mechanisms

Gender progressivity indicator, New Zealand, 1994–2022

	Married	Divorced
Agree	10.16	6.63
Nor agree neither disagree	13.21	15.47
Disagree	76.63	77.90
Total	100.00	100.00

Note: Authors' calculations using data from the World Values Survey for wave 3 (1994–1998), 5 (2005–2009), 6 (2010–2014) and 7 (2017–2022). The numbers show the level of agreement or disagreement to the statement: “When jobs are scarce, men should have more right to a job than women”. Unweighted results.

Conclusion

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