Parenthood Timing and Gender Inequality

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Motivation

Gender inequality in OECD labor markets typically emerges with parenthood

- Understanding the role of parenthood is crucial for addressing gender inequity

Quantifying the effects of parenthood is challenging due to selection:

- Parents may differ systematically from those who are and/or remain childless

Addressing selection requires quasi-experimental fertility variation:

- A setting where pregnancy is as-good-as-random (various quasi-experiments)
- Compare those who conceive at that moment to those who do not

But many women who do not conceive initially eventually become mothers

- Existing evidence identifies a weighted average of parenthood and timing effects

These forces may work in opposite directions and require distinct policies

This Paper

What are the effects of parenthood and its timing?

- How would outcomes change if parents remained childless or delayed childbirth?

1. New approach to estimate treatment effects
   - Quasi-experiments where unassigned individuals can repeatedly undergo assignment
2. Empirical evidence using novel administrative Dutch data
   - Focus on couples undergoing **intrauterine insemination**
3. Framework to separate selection, parenthood effects, and timing effects
   - Quantify bias in existing methods

Preview of Main Results

- Parenthood persistently reduces women's work hours and income
  - Yearly reductions between 9 and 24 percent
- Parenthood causes a large share, but far from all, of post-child gender inequality
  - Between 36 and 54 percent in work hours and up to 46 percent in income
- Delayed childbearing results in smaller losses
  - Even after childbirth women continue to work and earn more

Literature and Contribution

1. Existing quasi-experimental studies average parenthood and timing effects
   - Hotz et al. (2005); Agüero & Marks (2008); Cristia (2008); Miller (2011); Lundborg et al. (2017); Bensnes et al. (2023); Gallen et al. (2023); Lundborg et al. (2024)

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   - Patterns are nearly identical among couples undergoing artificial insemination

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4. Isolating treatment and timing effects in quasi-experiments is a common challenge
   - Education programs with multiple admission cycles, assignment to judges, promotion tournaments

Method applicable to many other settings with sequential quasi-experiments

Baseline Reduced-Form Setup

Address selection using a quasi-experiment: women undergoing artificial insemination.

- Outcome of the first procedure $Z_1 \in \{0, 1\}$
- Parenthood indicator $D \in \{0, 1\}$
- Potential labor market outcomes $Y_{z_1}(d)$
- Effect of parenthood: $Y_1(1) - Y_0(0)$
- Effect of parenthood timing: $Y_1(1) - Y_0(1)$

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- Effect of parenthood timing: $Y_1(1) - Y_0(1)$

Standard reduced form argument:

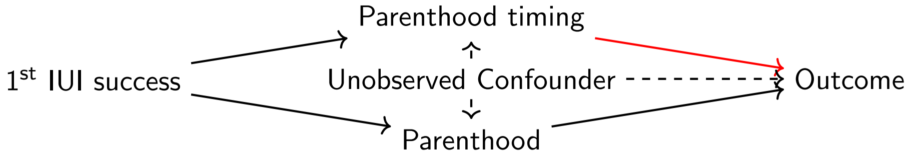
1. Assume success of the first procedure is random (conditional on age)
2. Compare women whose first procedure succeeds to those whose fails:

$$\mathbb{E}[\text{Parenthood effect} \mid D = 0 \text{ if } Z_1 = 0]c + \mathbb{E}[\text{Timing effect} \mid D = 1 \text{ if } Z_1 = 0](1 - c)$$

- $c = \Pr(\text{no child if } Z_1 = 0) \approx 0.25$ in practice

Standard Instrumental Variable Approach

- Consider using first IUI success as an instrument for parenthood
- Say we measure parenthood and labor market outcomes 10 years after the first IUI
- 75% of women whose first IUI failed become mothers
- Their eventual parenthood status is not affected but they **conceive later**
- Their labor market outcomes may be affected by a shift in fertility timing
  - Pregnant at first IUI $\Rightarrow$ give birth younger, earlier in career, higher completed fertility
  - Outcomes may depend on these factors



Identification Intuition

Average treated outcome is straightforward to identify

- Under random IUI success, first-attempt successes form a random sample
- Identifies the population average treated outcome

Goal: Average control outcomes for a near-population

- Compare treated outcomes (population) to control outcomes (near-population)
- Approximates the average treatment effect, up to small compositional differences

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Key Observation: Many women conceive through subsequent IUIs

- If all IUIs were to fail, many women might remain childless, helping identify near-population control outcomes

Question: can we identify average outcomes in this universal-failure scenario?

- Challenge: # of IUIs is endogenous; women who never succeed = selected sample

Key ingredient

- Before treatment, each woman has a positive probability of never succeeding
- If known, reweight women who never succeed to obtain a representative sample

Identification Intuition (cont.)

The probability of never conceiving via IUI depends on:

1. Per-attempt success rates (observed)
2. The number of attempts a woman would undergo under repeated failure

Key idea:

- Among women whose IUIs fail, attempts under failure = realized attempts
- This allows construction of a representative sample under universal IUI failure

Identification Intuition (cont.)

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Key idea:

- Among women whose IUIs fail, attempts under failure = realized attempts
- This allows construction of a representative sample under universal IUI failure

Can identify:

- Who remains childless (reliers)
- Their average control outcome
- Their population share

Addressing composition differences:

- Treated outcomes observed only among first-attempt successes
- Reliers are unobserved; bound their average treated outcome using their share

Statistical Model

Women differ in two unobserved characteristics:

- "Willingness" to undergo IUIs, $W \in \{1, \ldots, \overline{w}\}$
  - Would undergo W IUIs for the first child if all IUIs failed
- "Reliance" on IUIs, $R \in \{0, 1\}$
  - No child if all IUIs fail, $R = 1$

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Observables:

- IUI j success indicator, Z_j, for procedures before having any children
- Number of realized IUIs:

$$A = \min\left(\{j : Z_j = 1\} \cup \{W\}\right)$$

- Parenthood indicator:

$$D = \max(Z_A, 1 - R)$$

Sequential Unconfoundedness

Assumption (Sequential Unconfoundedness)

$(Y_1(1), Y_0(0), R, W) \perp\!\!\!\perp Z_j | A \geq j.$

In words: once sperm at IUI j are implanted, whether this results in a conception is as-good-as-random

- **The decision to undergo the procedure can be endogenous**
- $Y_1(1), Y_0(0), R$ and W can be related
- Main method relaxes to covariate-conditional version: age at procedure, technology

Simple World: Max 2 IUIs, All Reliers

$W = 1$
(willing to try once)

$Z_1 = 1$

$Z_1 = 0$

Simple World: Max 2 IUIs, All Reliers

$W = 1$ (willing to try once)	$W = 2$ (willing to try twice)
$Z_1 = 1$	$Z_1 = 1$
$Z_1 = 0$	$Z_1 = 0, Z_2 = 1$
	$Z_1 = 0, Z_2 = 0$

Simple World: Max 2 IUIs, All Reliers

$$
\begin{tikzcd}
\begin{matrix} W = 1 \\ \text{(willing to try once)} \end{matrix} & \begin{matrix} W = 2 \\ \text{(willing to try twice)} \end{matrix} \\
\boxed{Z_1 = 1} \arrow[r, leftrightarrow] & \boxed{Z_1 = 1} \\
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\end{tikzcd}
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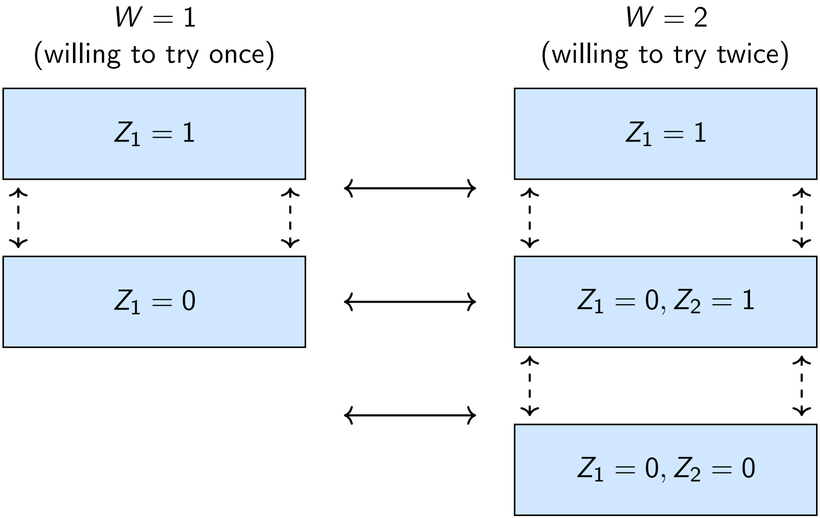

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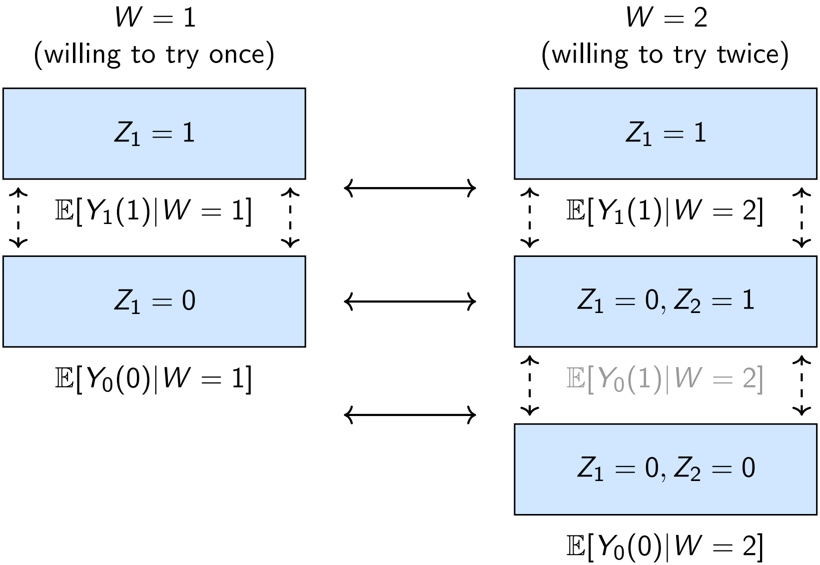

Simple World (Observed): Max 2 IUIs, All Reliers

$W = 1$ (willing to try once)	$W = 2$ (willing to try twice)
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Simple World (Observed): Max 2 IUIs, All Reliers

$W = 1$
(willing to try once)

$W = 2$
(willing to try twice)

$Z_1 = 1$

$\mathbb{E}[Y_1(1)]$

$Z_1 = 0$

$\mathbb{E}[Y_0(0)|W = 1]$

$Z_1 = 0, Z_2 = 1$

$\mathbb{E}[Y_0(1)|W = 2]$

$Z_1 = 0, Z_2 = 0$

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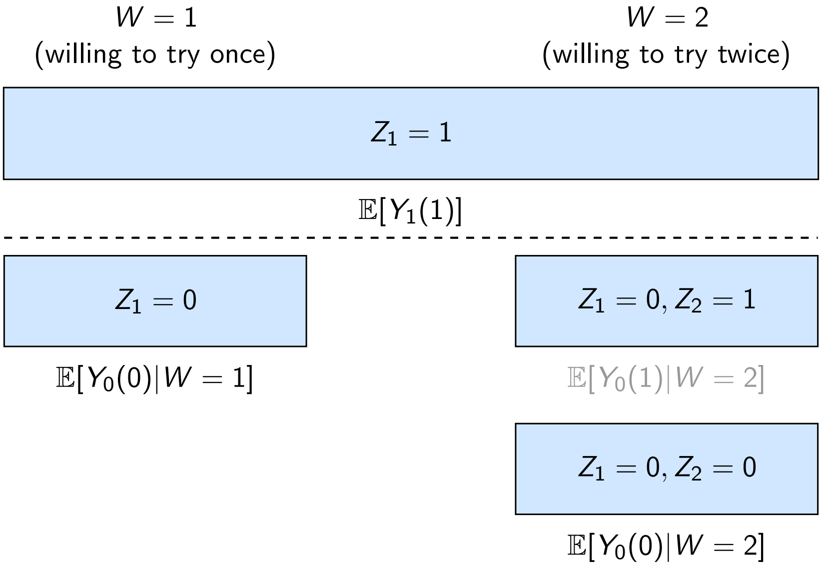
Simple World (Observed): Max 2 IUIs, All Reliers



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$Z_1 = 1$

$\mathbb{E}[Y_1(1)]$

$Z_1 = 0$

$\mathbb{E}[Y_0(0)|W = 1]$

$Z_1 = 0, Z_2 = 1$

$\mathbb{E}[Y_0(1)|W = 2]$

$Pr(W = 1) =$

$Z_1 = 0, Z_2 = 0$

$\mathbb{E}[Y_0(0)|W = 2]$

Simple World: Max 1 IUI with Non-reliers

$R = 1$ (no child if fail)	$R = 0$ (child if fail)

Simple World: Max 1 IUI with Non-reliers

$R = 1$ (no child if fail)	$R = 0$ (child if fail)

$Z_1 = 1$

Simple World: Max 1 IUI with Non-reliers

$R = 1$ (no child if fail)	$R = 0$ (child if fail)
$Z_1 = 1$	$Z_1 = 1$
$Z_1 = 0, D = 0$	$Z_1 = 0, D = 1$

Simple World: Max 1 IUI with Non-reliers

$R = 1$
(no child if fail)

$R = 0$
(child if fail)

$Z_1 = 1$

Distribution of $Y_1(1)$

$Z_1 = 0, D = 0$

$Z_1 = 0, D = 1$

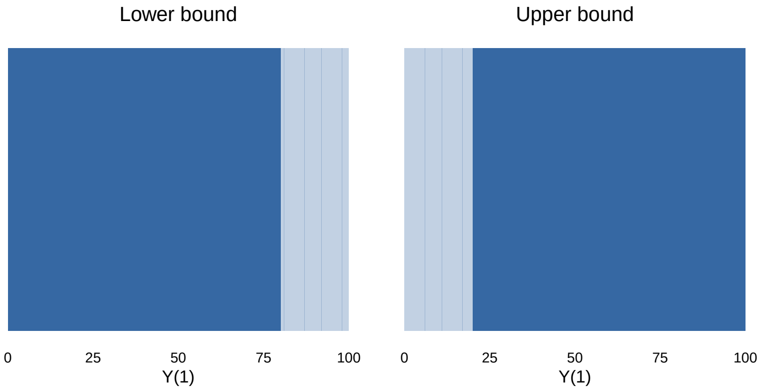
$\mathbb{E}[Y_0(0)|R = 1]$

$\mathbb{E}[Y_0(1)|R = 0]$

$Pr(R = 1) =$

Intuition: Motherhood Outcome $Y_1(1)$

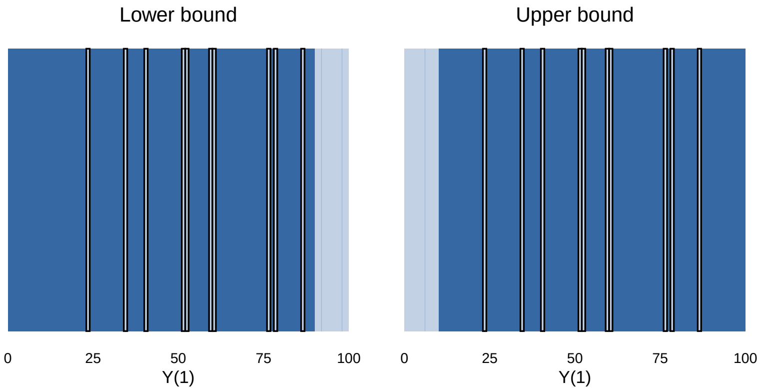
1. Treated group is a representative sample but their types are unobserved
2. Identify $\Pr(R = 1) = 0.8$ on control group
3. Assume most extreme distributions of types in treated group
4. Bound $\mathbb{E}[Y_1(1)|R = 1]$



Narrowing the Bounds Further

Use additional information which on mother are reliers:

- Some women have non-IUI children after IUI succeeds
- May be reasonable to assume they are not reliant on IUIs
- Consistent with being determined to have at least one child
- Reduces uncertainty around which women are reliers



Further Details

Compare average relier control outcome to bounds on their treated outcome

Formal identification →

- Covariate-conditional sequential unconfoundedness: age and procedure type
- Combine the two steps in a semi-parametric moment equation

Using covariates to narrow the bounds →

- The bounds are sharp

Inference complicated by trimming of the outcome distribution →

- Build on a double/debiased machine learning approach by Semenova (2023)
- Construct orthogonal moment functions that are robust to first-stage nonparametric estimation errors in quantile and other nuisance functions

Background and Data

Assisted conception procedures →

- In-vitro fertilization: invasive medical procedure, first 3 free
- Intrauterine insemination: direct sperm injection, minimally invasive, free

Dutch family policies and labor market similar to OECD average →

- 16 weeks maternity + pregnancy leave, 1 week paternity leave

Data combining ACP medical records with tax records →

- Work hours and income include leave; results for hours corrected for uncertainty
- 15,523 cohabiting opposite-sex couples
- Balance: ACP success at each attempt uncorr. with past outcomes cond. on age
- Reliers make up $\sim$ 50% of the sample

Balance in 1st IUI first | Balance in later IUIs | Success probabilities per attempt

IUI Sample Representativeness: Observables

External relevance depends on whether the IUI sample resembles other parents

- Before parenthood, IUI parents worked slightly less and had somewhat lower income; differences are small Table
- IUI sample is 2.5 years older at first birth

In part due to the one-year unsuccessful natural attempt requirement before IUI

IUI Sample Representativeness: Unobservables

What about unobservables? E.g. stronger desire for family?

- 5% of Dutch mothers underwent IUI before conceiving; selection on unobservables may be substantial

IUI parents can be seen as draws from a population of potential IUI users

- IUI is initiated after one year of unsuccessful natural attempts
- Use medical fecundity rates to obtain a lower bound on how many women would have undergone IUI absent earlier natural conception
- Accounting for the age profile, for each IUI user, roughly nine similar women conceive naturally before reaching IUI initiation
- Calculations suggest the sample is representative of at least $\sim 50\%$ of parents

Effect of Parenthood: Women

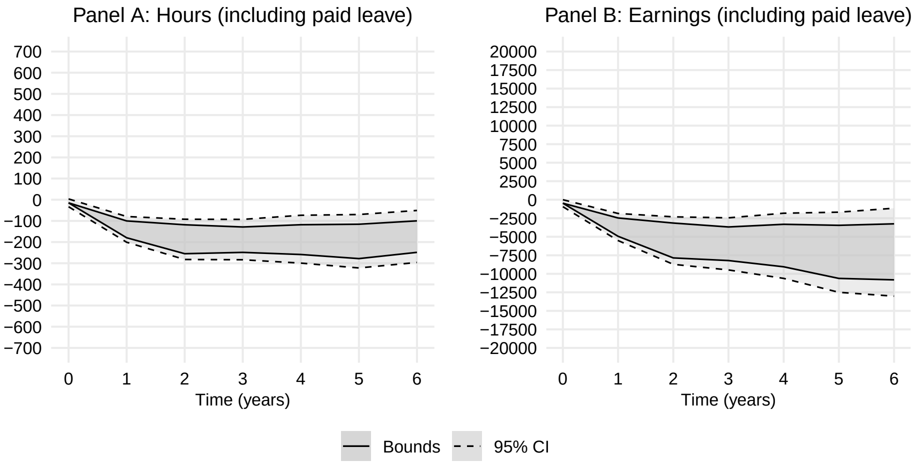


Figure 1: Parenthood Effect Bounds for Women

Effect of Parenthood: Men

Figure 2: Parenthood Effect Bounds for Men

Share of Gender Inequality Caused by Parenthood

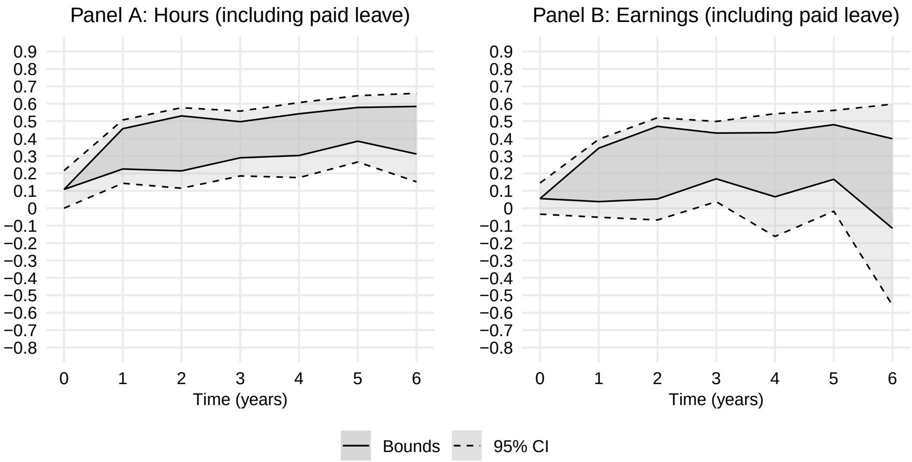


Figure 3: Effect on Gender Gap relative to Gap Under Parenthood

Timing Effects

So far:

- Compare relier average treated vs control outcomes

The complement: Non-reliers

- Compare treated vs later-treated outcomes; symmetric identification argument
- Child present in both cases, but born at different times

Timing shifts are heterogeneous

- Non-reliers conceive naturally at different times after first IUI
- Can identify the average delay due to IUI failure
- Cannot identify the counterfactual delay if first IUI had succeeded
- Identify the average effect of heterogeneous timing shifts

Timing Effects Interpretation

Focus on outcomes three years after first IUI:

- Relier share stable at $\sim 50\%$
- Average fertility delay of 3.1 years

Estimate at t years since first IUI:

- Effect of 3.1-year average delay in childbirth (vs at first IUI), t years after first IUI

Example:

- First IUI at age 35
- Compare outcomes at age 40 if conception occurred at 35 vs 38

Motherhood occurs later, children are younger, fewer children on average

Effect of Parenthood Timing: Women

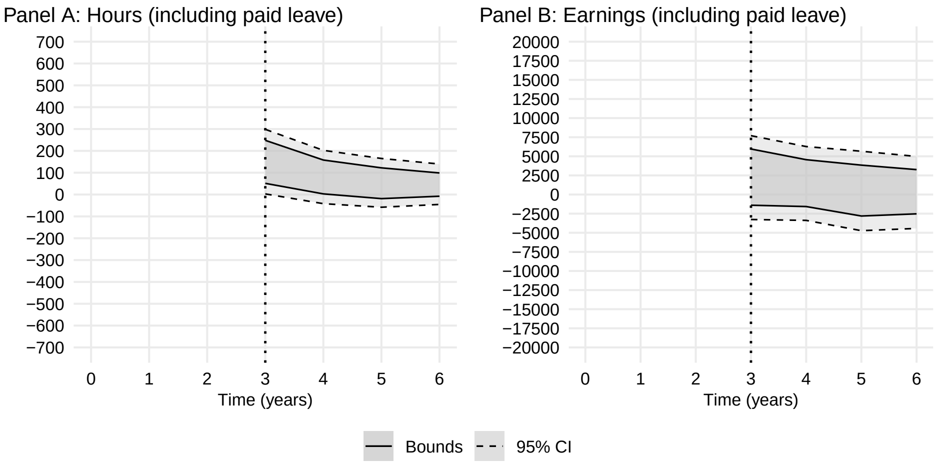


Figure 4: Parenthood Timing Effect Bounds for Women

How Much Does Delayed Childbearing Mitigate Career Costs?

Focus on midpoints of bounds

- Necessarily suggestive; comparing short run estimates for reliers and non-reliers

Before delayed birth:

- Absence of children: +16% annual hours, +19% earnings

After delayed birth:

- Gains shrink to +5% hours, +2% earnings

Lifetime implications (33-year horizon from age 32)

- 1-year delay $\Rightarrow$ +5.5% hours, +2.5% earnings
- 5-year delay $\Rightarrow$ +7% hours, +4.5% earnings

Baseline long-run parenthood losses: –15% hours, –20% earnings

Five-year delay reduces losses to: –9% hours, –16% earnings

Extensions

- **Selection into parenthood** Formal procedure Estimates
- Relation to partial identification literature Comparison
- Robustness Childless final period De-aging partners Mental health Bounds for non-depressed

Conclusion

A method for evaluating treatment and timing effects under dynamic non-compliance:

- Applicable to various settings involving sequential quasi-experiments

Estimate the career cost of parenthood in the Netherlands:

- Motherhood causes up to half of gender inequality in hours and income
- Delayed childbearing mitigates women's losses

Accounting for selection and timing effects helps reconcile findings in the literature:

- Failing to account for either factor leads to bias

External relevance:

- IUI is common, the sample matches population on observables
- Many women would undergo IUI if natural conception failed

Policy:

- Large share of gender inequality may not be due to parenthood per se
- Enabling later childbearing may mitigate gender inequality

Bounding τ_{ATR}

Construct the moment:

$$m^L(G, \eta^0) = Y 1_{\{Y < q(r(X_1), X_1)\}} \frac{Z_1}{e_1(X_1)} - Y(1-D) \prod_{j=1}^{A} \frac{(1-Z_j)}{(1-e_j(X_j))}$$

- G is the observed data vector
- η^0 contains the following:
  - $e_j(X_j) = \Pr(Z_j = 1 | X_j)$
  - $q(r(X_1), X_1)$ is the $r(X_1)$-th quantile of Y given X_1 and $Z_1 = 1$
  - $r(X_1)$ identifies the covariate-conditional relier share

Assumption (Conditional Sequential Unconfoundedness)

$(Y(k), R, W) \perp\!\!\!\perp Z_j \mid X_j$ *for all* j, k, *and* $X_j, A \geq j$.

Theorem (Lower Bound)

Under conditional sequential unconfoundedness and regularity, the sharp lower bound on τ_{ATR} *is* $\mathbb{E}[m^L(G, \eta^0)] / \mathbb{E}[r(X_1)]$.

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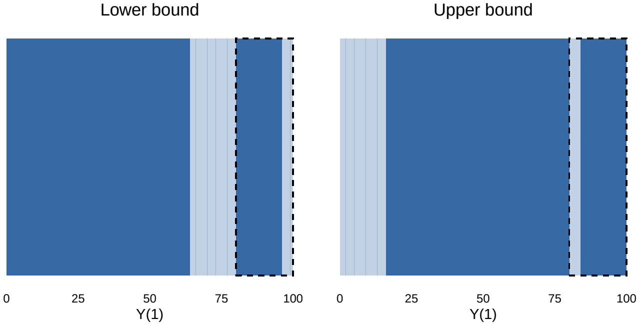
Intuition: Motherhood Outcome $Y_1(1)$—Covariates

Pre-IUI covariates can help narrow the bounds:

- Can identify relier share at each covariate value
- Baseline bounds assume extreme scenarios where reliers have highest or lowest treated outcomes
- These distributions of treated outcomes might be inconsistent with conditional relier shares



Estimating the Bounds

Distribution of $m^L(G, \eta^0)$ is complicated by $q(r(X_1), X_1)$

- Semenova (2023) addresses a closely related inference challenge
- Double/debiased machine learning approach
  1. Adjust $m^L(G, \eta^0)$ to make it insensitive to small error in $q(r(X_1), X_1)$
  2. Sample splitting
- Asymptotic inference as if $q(r(X_1), X_1)$ was known

New moment:

$$\psi^L(G, \xi^0) = m^L(G, \eta^0) + corr(G, \xi^0)$$

Identifies same parameter:

$$\mathbb{E}[\psi^L(G, \xi^0)] = \mathbb{E}[m^L(G, \eta^0)]$$

Insensitive to estimation error in $q(r(X_1), X_1)$:

$$\partial_{q(.)} \mathbb{E}[\psi^{L+}(G, \xi_r)|X_1]|_{\xi_r = \xi_r^0} = 0 \ a.s.$$

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Assisted Conception Procedures

- IUI (main procedure): sperm injected into uterus
  - Minimally invasive, primary ACP in most countries
  - “Free” in NL
- IVF (secondary procedure): embryo inserted into uterus
  - Invasive treatment, performed under sedation/anesthesia
  - Eggs retrieved through the vaginal wall using a specialized needle
  - In NL, first 3 free; each subsequent costs between 1000 and 4000 EUR

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Institutions

- Dutch family friendly polices similar to OECD average
  - 16 weeks of fully paid pregnancy+maternity leave
  - 1 week of paternity leave
  - Average time in child care similar to OECD average
  - Net child care cost 10% median household income
- Dutch employment intensity similar to OECD average
  - Employment among parents and non-parents relatively high
  - Part time work much more common
  - Approximately 15% two-parent families have both partners working part-time

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Data

Administrative data from Statistics Netherlands

- Comprehensive hospital records cover fertility treatments from 2012 to 2017: procedure date and type
  - Success imputed as having child born within 10 months
- Tax records cover work hours and income from 2011 to 2023
  - Include maternity leave and pay
  - Main bounds account for uncertainty around actual work hours
- Birth dates, legal family connections, cohabitation
- Dispensed medication registry

Main sample: cohabiting opposite-sex couples undergoing IUI for their first child between 2013 and 2016: 15,523

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Balance in 1^{st} IUI

Back (data) Back (representativeness)

Table 1: First IUI Outcomes and Descriptives

	Success (1)	Fail (2)	Dif. (1)-(2)	IPW dif. (1)-(2) cond.	Rep. (5)	Suc. vs rep. (1)-(5)
Work (W)	0.912	0.916	-0.004	-0.009	0.936	-0.024
	[0.283]	[0.277]	(0.008)	(0.008)	[0.244]	(0.007)
Work (P)	0.894	0.885	0.009	0.002	0.897	-0.002
	[0.307]	[0.319]	(0.009)	(0.009)	[0.304]	(0.008)
Hours (W)	1300.012	1298.876	1.136	-1.951	1310.923	-10.911
	[547.832]	[558.316]	(15.730)	(16.119)	[544.468]	(14.554)
Hours (P)	1513.337	1494.541	18.796	3.345	1497.603	15.734
	[635.121]	[656.050]	(18.457)	(19.041)	[651.043]	(17.403)
Earn. 1000s EUR (W)	29.358	29.648	-0.290	0.203	26.555	2.803
	[18.000]	[18.911]	(0.531)	(0.561)	[15.989]	(0.427)
Earn. 1000s EUR (P)	38.082	38.060	0.022	0.322	33.862	4.220
	[25.425]	[26.525]	(0.745)	(0.774)	[24.148]	(0.646)
Bachelor deg. (W)	0.512	0.494	0.018		0.518	-0.007
	[0.500]	[0.500]	(0.014)		[0.500]	(0.013)
Bachelor deg. (P)	0.425	0.410	0.014		0.430	-0.005
	[0.494]	[0.492]	(0.014)		[0.495]	(0.013)
Age (W)	31.373	32.060	-0.687		28.840	2.533
	[3.889]	[4.265]	(0.119)		[3.896]	(0.104)
Age (P)	34.088	34.856	-0.768		31.415	2.673
	[4.968]	[5.500]	(0.154)		[4.803]	(0.128)
Observations	1,411	11,323			171,180	
Joint p-val.			0.001	0.955		0.000

Note: *Success* – average among women whose first IUI succeeded; *Fail* – average among women whose first IUI failed; *Dif.* – difference between *Success* and *Fail*; *IPW dif.* – difference adjusted for age and education using inverse probability weights from the baseline specification; *Rep.* – average in representative sample of women who conceived their first child without assisted conception procedures; *Suc. vs rep* – difference between *Success* and *Rep.*. Reference year: year of first IUI (IUI sample); 9 months before first birth (representative sample). IUI sample: women who underwent intrauterine insemination for their first child between 2013 and 2016, with no prior assisted conception procedures, cohabiting with a male partner in the year prior to the reference year. Representative sample: women with no assisted conception procedures before first birth, cohabiting with a male partner in the year prior to the reference year, with reference year between 2013 and 2016. Labor market outcomes measured in the year before the reference year; age measured in the reference year. *Bachelor deg.* – indicator for completing a bachelor's degree. *Earn.* – earnings, (W) – woman, (P) – partner. Standard deviations in brackets. Standard errors in parentheses.

ToC

Balance in Subsequent ACPs

Table 2: Balance in Later ACPs

	Z_2	Z_3	Z_4	Z_5	Z_6	Z_7	Z_8	Z_9	Z_{10}
Work (W)	0.009	-0.004	0.022	0.014	0.039	-0.003	-0.011	0.022	0.030
	(0.010)	(0.011)	(0.011)	(0.012)	(0.012)	(0.017)	(0.018)	(0.019)	(0.024)
Work (P)	0.006	0.016	0.012	0.020	-0.004	-0.004	-0.019	0.017	0.030
	(0.010)	(0.010)	(0.012)	(0.012)	(0.015)	(0.015)	(0.019)	(0.020)	(0.027)
Hours (W)	32.885	-4.482	52.999	41.332	81.957	11.894	-18.836	72.659	24.819
	(18.721)	(20.032)	(21.045)	(22.686)	(25.131)	(31.187)	(32.937)	(38.210)	(48.490)
Hours (P)	21.655	24.730	23.756	38.965	9.666	-6.580	-28.458	30.525	43.722
	(21.018)	(21.089)	(23.574)	(25.255)	(30.585)	(31.513)	(37.976)	(44.856)	(52.821)
Income 1000s € (W)	1.481	-0.015	1.685	1.802	2.086	0.150	-0.043	0.866	-0.444
	(0.615)	(0.624)	(0.767)	(0.830)	(0.913)	(1.000)	(1.092)	(1.234)	(1.629)
Income 1000s € (P)	-0.749	1.002	2.040	0.800	0.774	0.025	0.259	-0.324	0.149
	(0.835)	(0.912)	(1.066)	(1.115)	(1.424)	(1.424)	(1.563)	(1.737)	(2.203)
Observations	12,974	10,774	8,726	6,977	5,411	3,944	2,723	1,850	1,174
Joint *p*-val.	0.175	0.976	0.234	0.303	0.140	1.000	0.956	0.704	0.917

Note: Each column describes the difference in average characteristics between women for whom the respective ACP succeeds and those for whom it fails, among those who undergo the procedure, using inverse probability weights for each ACP following the main specification. Labor market outcomes and age measured year before first treatment. (W) - woman, (P) - partner. Standard errors in parentheses.

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Estimated Success Probabilities

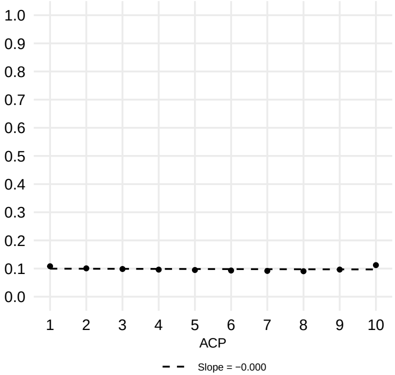

Figure 5: Estimated Success Probabilities

Comparison with Lee (2009)

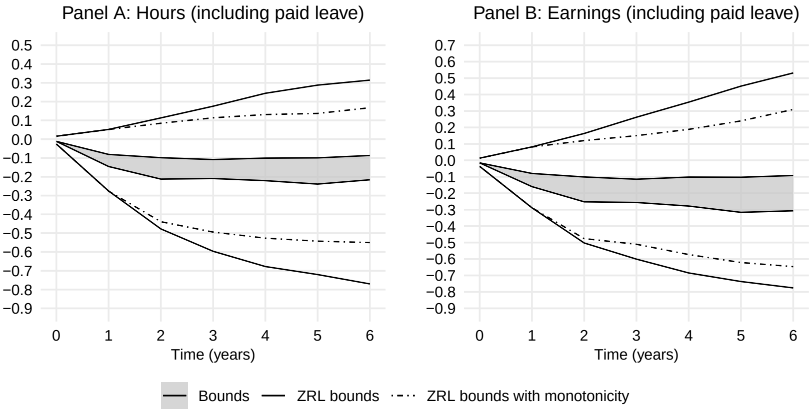

Figure 6: Comparison with Lee (2009) Bounds for Effects on Women

Back (extensions) Conclusion

ToC

Quantifying Selection Using the Event Study Approach

Kleven et al. (2024) compare mothers t years after childbirth to women one year before

- Most gender inequality is explained by these differences between women
- Event study estimates may be biased due to selective timing
- But differences from IV/bounds need not imply bias, even in the same sample

1. I proxy fertility timing using the timing of first IUI
2. Compare the actual trajectories of women who attempted conception but remained childless with those imputed from women who are about to attempt conception but ultimately remain childless

- **Event study comparison of women with different timing absent children**
- **Same population as bounds: selection vs causal effects directly comparable**

Back (extensions) Conclusion

ToC

Placebo Event Study

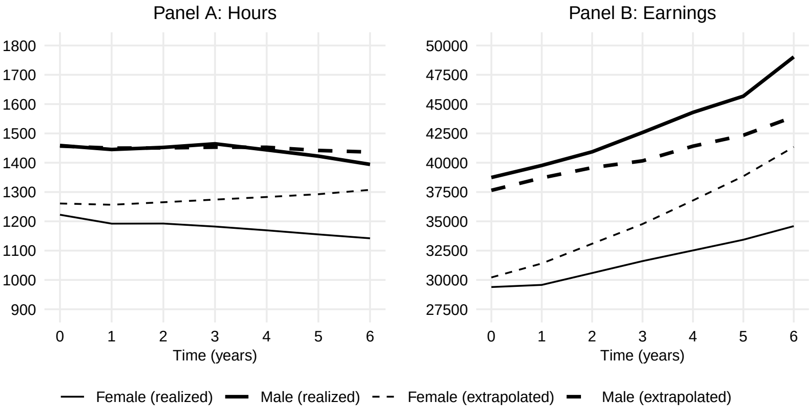

Figure 7: Placebo Event Study

Gender Inequality: Causal vs Selection

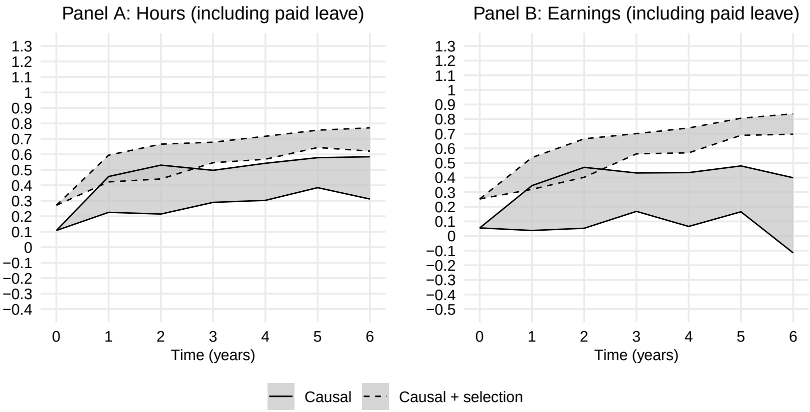

Figure 8: Share of Gender Inequality Explained by Selection and Parenthood

Back (extensions) Conclusion

ToC

Mental Health and Assisted Conception

Mental health consequences associated with failure to conceive are a part of the story:

- Unmet fertility goals may negatively impact mental health, and in turn, labor market outcomes

There are, however, additional concerns:

- Mental health issues caused specifically by failed conception or ACPs (external)
  - Focusing on artificial insemination helps mitigate this
- Large impacts unique to ACP families (external)
- Worsened mental health by threatening monotonicity (internal)

In practice, these impacts are likely small (Lundborg et al., 2024)

Antidepressant uptake Back (extensions) Conclusion

ToC

Monotone Bounds for Non-depressed Childless Women

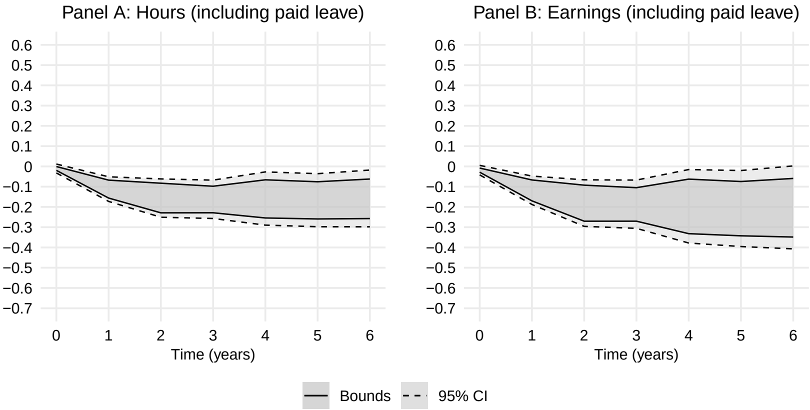

Figure 9: Monotone Bounds for Women Who Would Not Uptake Antidepressants if They Were to Remain Childless

Back (extensions) Conclusion

ToC

Effect of IUI Failure on Antidepressant Use

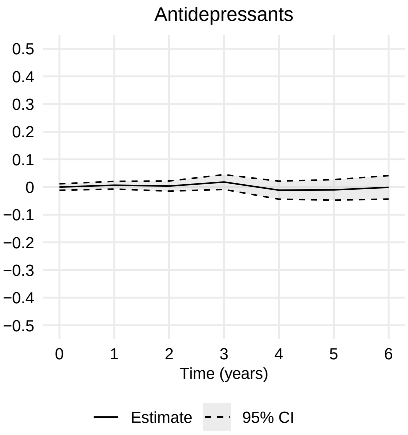

Figure 10: Estimates for effect on antidepressant take-up

Monotone Bounds: Women Who Remain Childless

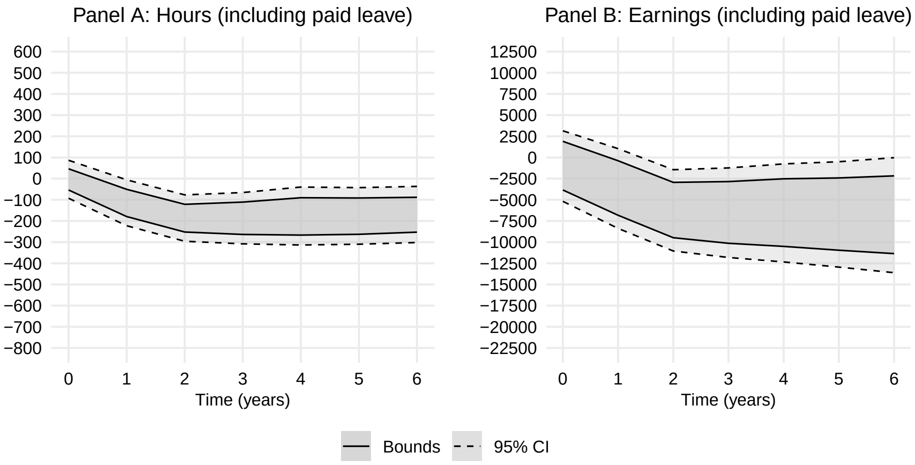

Figure 11: Monotone Bounds Using Completed Fertility

Parenthood Effect Bounds: Correcting for Partner's age

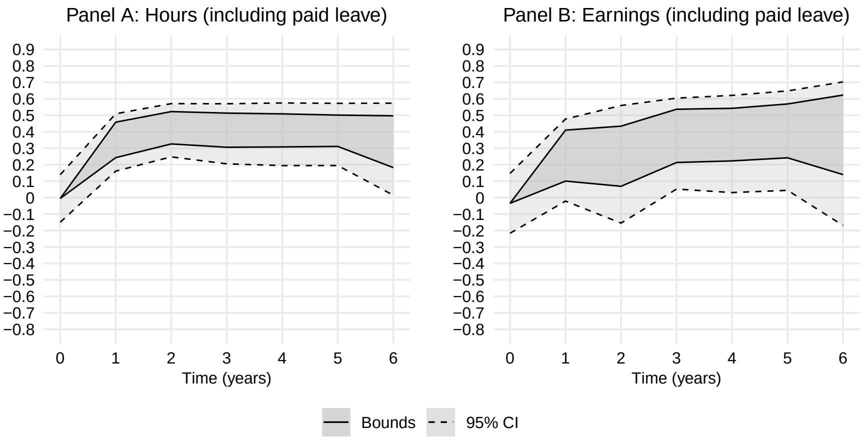

Figure 12: Bounds Measuring Male Income at Same Age as Female

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