

Delaying Fertility, Advancing Careers: The Lasting Consequences of Growing Up with a Safety Net

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June 2026, CESifo Venice Summer Institute
The Economics of Gender and the Family

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⇒ **Could these two findings be connected?**

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 - The setting and data used in this paper allow me to overcome these challenges
- ⇒ **Does childhood income support improve women's labor market outcomes by changing fertility and early-career decisions?**

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 - Permanent, large-scale, government-implemented program
- **Data:** eighteen years of **administrative records** from multiple sources
 - Follow *children* of applicant households *into adulthood*
- **Design:** **fuzzy RDD** around the first-application eligibility threshold z^*
 - Discontinuous USD 3,300 (43%) increase in cumulative childhood transfers
 - $\sim$ 3.3 years of *formal* income during childhood
 - $\sim$ 1.5 years of self-reported *total* income during childhood

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 - Women move into age-at-first-birth paths with more lenient child penalties
- 4- Consistent with models linking **childhood conditions** to **career/fertility** tradeoffs.
- 5- An extra \$1,000 **pays for itself** by age 37 with + fiscal returns at retirement.

Contributions

- **Childhood income support, fertility timing, and women's careers** (Fertility timing and women's careers: Goldin and Katz, 2002; Bailey, 2006; Miller, 2011; Goldin, 2014; Angelov et al., 2016; Blau and Kahn, 2017; Kleven et al., 2019; Doepke et al., 2023; Miller et al., 2023; Gallen, 2024; Kleven et al., 2025; Londoño-Vélez et al., 2025) (Childhood income support and long-run outcomes: Aizer et al., 2016; Hoynes et al., 2016; Almond et al., 2018; Bastian and Micheltore, 2018; Manoli and Turner, 2018; Araujo and Macours, 2021; Barr et al., 2022; Bastian et al., 2022; Parker and Vogl, 2023; Bailey et al., 2024; Bitler and Figinski, 2024; Page, 2024; Price and Song, forthcoming)
 - Childhood income support improves women's adult labor market outcomes through more career-oriented transitions to adulthood
- **Teenage fertility and economic opportunity** (Hotz et al., 2005; Black et al., 2008; Berthelon and Kruger, 2011; Kearney and Levine, 2012; Chetty et al., 2014; Kearney and Levine, 2014; Kearney et al., 2015; Bailey et al., 2017; DeCicca and Krashinsky, 2020)
 - Improving childhood conditions can delay first births by changing schooling decisions and early labor market attachment
- **Public finance of anti-poverty transfers and dynamic effects** (Chetty et al., 2011; Almond et al., 2018; Hendren and Sprung-Keyser, 2020; Aizer et al., 2022)
 - I provide new evidence that illustrates the importance of these dynamics beyond in-utero and early childhood interventions.

Institutional Background

Background — Uruguay



- Population: 3.5M
- Middle-High income country (~ Chile)
- Strong presence of public sector
- Lagging in some key indicators:
completed lower secondary, teenage fertility
- High-quality administrative records

(Amarante, Manacorda, Miguel, and Vigorito, 2016; Bergolo and Cruces, 2022; Bergolo, Ceni, Cruces, Giacobasso, Perez-Truglia, 2022; Bergolo, Burdin, De Rosa, Giacobasso, Leites, 2021)

- [► More about UY](#)

Background — PANES/AFAM-PE

- In 2005, **cash transfer** program targeted at **poor** individuals/HHs (PANES)
 - Very salient intervention → largest social assistance program (0.41% of GDP)
- Eligibility based on a **poverty score** (z)
 - z : predicted probability of being in the bottom 20% of income distribution
 - $z > Z^* \rightarrow$ eligible
- Income support provided as a monthly transfer (debit card)
 - **~ 70% of self-reported pre-program household income**
 - No time limits (other than children being underage)
- Conditions on education and health check-ups. Not enforced until 2013.

Data and Empirical Strategy

Data and Sample

- I combine **administrative records** covering the universe of program applicants
 - *Ministry of Social Development*: application and participation records
 - *Ministry of Public Health*: birth records,
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- Outcomes are observed up to 2020-2023
- Main sample: **children from poor households**
 - < 18 at their household's first application, ≥ 19 in December 2021
 - Avg. age at application: 10 — Avg. age when last observed: 28
 - First application during PANES, i.e., 2005-2007 (70%)

Research Design

Eligibility and Multiple Applications

- Eligibility is based on a poverty score threshold
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- From the household's perspective, exposure is dynamic
 - Households may apply more than once
 - Thresholds became more lenient over time
 - Multiple scores, multiple resolutions → Which one should I use?

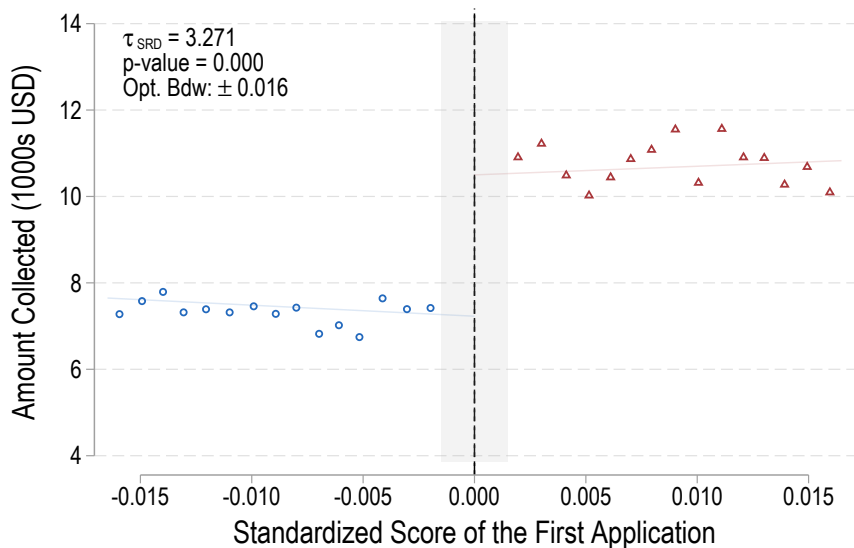
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 - Households below the threshold qualify for the program
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- From the household's perspective, exposure is **dynamic**
 - Households may apply more than once
 - Thresholds became more lenient over time
 - Multiple scores, multiple resolutions → Which one should I use?
- I use **eligibility at the first application** as the source of variation (Jepsen et al., 2016)
 - Poverty score observed as far back as possible
 - Reduces concerns about endogenous sorting through re-application

Research Design: Summary

- **Endogenous variable:** **total transfers** received by household before age 18.
- **Instrument:** eligibility based on the **score of 1st application**.
- **Intuition:** 1st app. is “**more exogenous**” → no re-application or manipulation
- **Cost:** **fuzziness** in the first stage.
 - Many households below the *first-application* threshold eventually receive benefits through *later applications*.
 - Still, the threshold generates a sharp discontinuity in cumulative benefits.
- **Identification assumptions:**
 - **Continuity:** Potential outcome regression functions are continuous at z^*
 - **Monotonicity:** First application eligibility weakly increases cumulative transfers

First Stage — Eligibility increases childhood transfers



Empirical Strategy — Fuzzy Regression Discontinuity Design

Main Specification:

$$Y_i = \mu + \tau T_i + \beta_1 Z_i^{1st} + \beta_2 Z_i^{1st} T_i + \mathbf{X}_i + \Lambda + u_i$$

Where T_i is instrumented with D_i^{1st} in the first stage:

$$T_i = \alpha + \delta D_i^{1st} + \gamma_1 Z_i^{1st} + \gamma_2 Z_i^{1st} D_i^{1st} + \mathbf{X}_i + \Lambda + \epsilon_i$$

- Y_i is the outcome variable (e.g. number of births, educ. enrollment, months worked enrollment, etc)
- T_i is the endogenous treatment variable (e.g., amount collected before 18yo)
- Z_i^{1st} is the centered value of the poverty score obtained in the first application
- D_i^{1st} is an indicator variable for eligibility in the first application ($Z_i^{1st} > 0$)
- $\mathbf{X}_i$ is a series of individual-level baseline characteristics
- Λ represent year of birth, year of application, and region FE

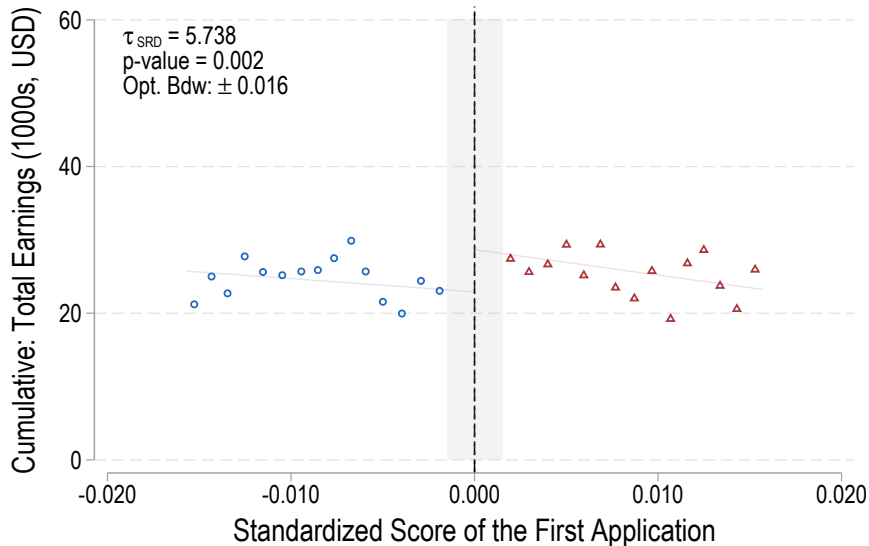
Estimation: Robust LLR (Calonico, Cattaneo, and Titiunik, 2014; Calonico, Cattaneo, Farrell, and Titiunik, 2018)

Results: Labor Market Outcomes

Main Results

- **How does childhood income support affect labor market outcomes?**

Effects on Women's Cumulative Earnings — Reduced Form



Effects on Women's Cumulative Earnings — Full Estimates

	Cumulative			Last-Year		
	Earnings	Months	Employed	Earnings	Full Year	Employed
a. Fuzzy RDD Estimate (τ_{FRD})						
Amount Collected (1000s, USD)	1.740*** (0.551)	2.520*** (0.636)	-0.004 (0.007)	0.199** (0.088)	0.021*** (0.007)	0.014* (0.007)
Robust <i>p</i> -value	0.002	0.000	0.667	0.029	0.007	0.057
Mean Baseline Outcome	24.74	37.33	0.72	3.85	0.26	0.41
Effect Size (%)	7.03%	6.75%	-0.52%	5.16%	8.08%	3.37%
b. Sharp RDD Estimate (τ_{SRD})						
Elig. 1st. App.	5.738*** (1.753)	8.311*** (1.978)	-0.012 (0.022)	0.654** (0.282)	0.069*** (0.024)	0.044* (0.023)
Robust <i>p</i> -value	0.002	0.000	0.666	0.025	0.005	0.054
Effect Size (%)	23.19%	22.27%	-1.69%	16.98%	26.64%	10.70%
Opt. Bandwidth	[0.016]	[0.016]	[0.017]	[0.017]	[0.016]	[0.020]
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Main Results

- **How does childhood income support affect labor market outcomes?**
 1. 7% increase in women's cumulative earnings and months worked

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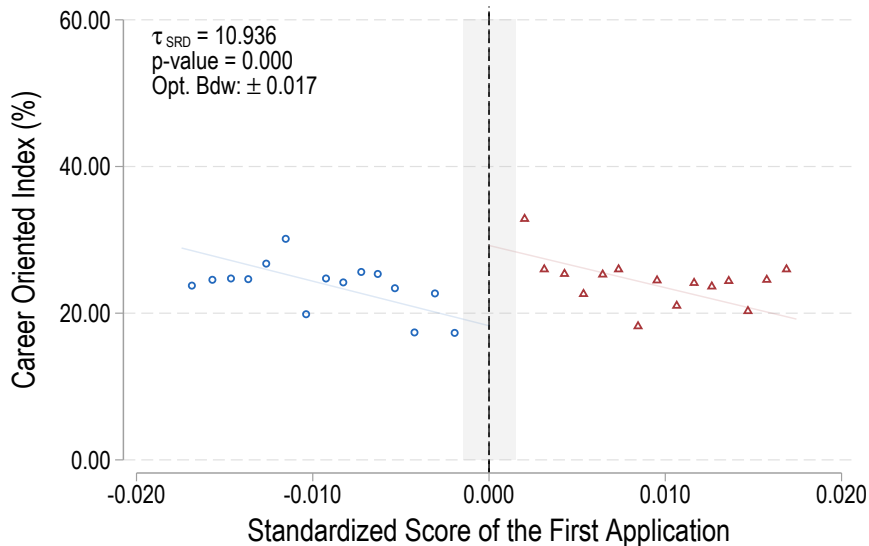
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 3. Mostly null effects for men [Go](#).

Results: Transitions to Adulthood

Main Results

- How does childhood income support affect labor market outcomes?
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- How does childhood income changed women's life-cycle dynamics?

Effects on Women's Transitions to Adulthood — Reduced Form



Effects on Transitions to Adulthood — Full Estimates

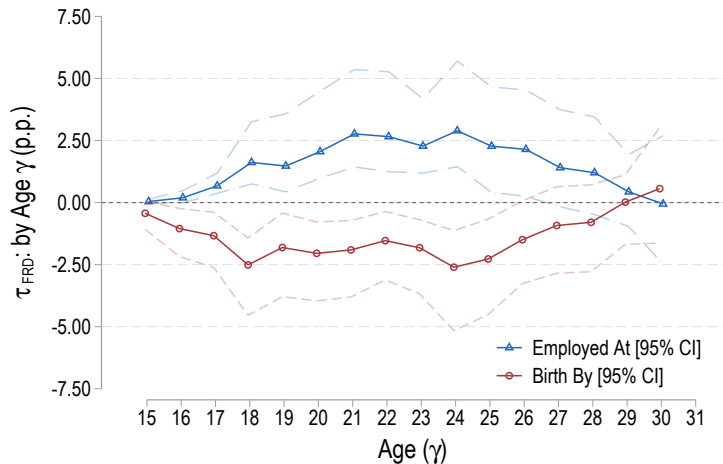
	Birth Before Age 19	University Enrollment	Job Before Age 19	Career- oriented Index
a. Fuzzy RDD Estimate (τ_{FRD})				
Amount Collected (1000s, USD)	-2.511*** (0.643)	0.910* (0.482)	2.285*** (0.639)	3.363*** (0.725)
Robust p -value	0.000	0.053	0.000	0.000
Mean Baseline Outcome	21.68	11.25	17.07	23.68
Effect Size (%)	-11.58%	8.09%	13.39%	14.21%
b. Sharp RDD Estimate (τ_{SRD})				
Elig. 1st. App.	-8.218*** (1.915)	2.925** (1.522)	7.448*** (1.966)	10.936*** (2.130)
Robust p -value	0.000	0.048	0.000	0.000
Effect Size (%)	-37.90%	26.01%	43.63%	46.19%
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Effects on Transitions to Adulthood — Full Estimates

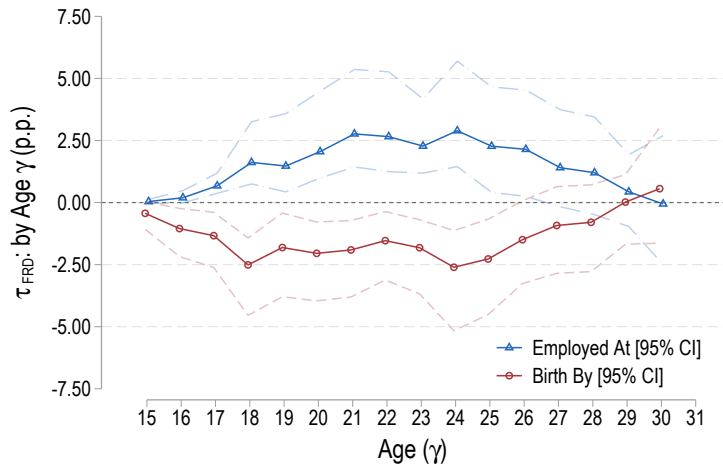
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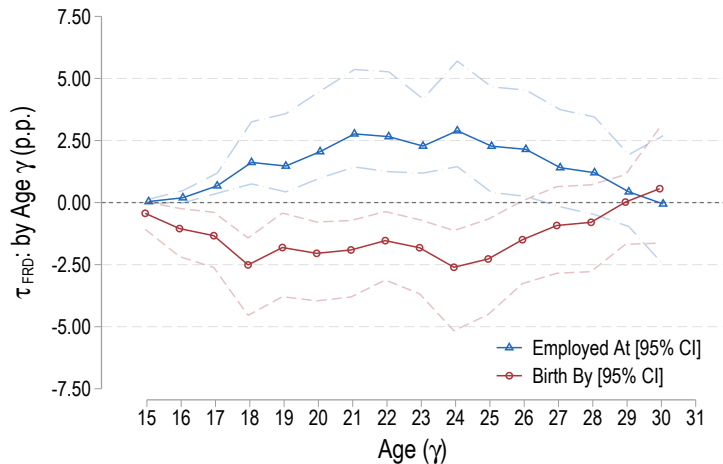


Dynamic Effects on Fertility and Employment Outcomes



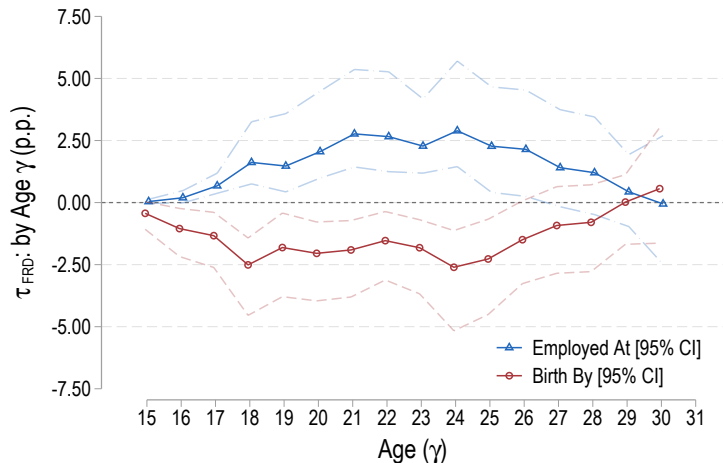
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Dynamic Effects on Fertility and Employment Outcomes



- Age at first birth: +0.160, p-value=0.001
- Age at first job: -0.263, p-value<0.001

Dynamic Effects on Fertility and Employment Outcomes



- Age at first birth: +0.160, p-value=0.001
- Age at first job: -0.263, p-value<0.001
- Extensive margin effects are null $\rightarrow$ all about timing

Table

Balanced Sample

Men - Dynamics

Other Outcomes

Main Results

- How does childhood income support affect labor market outcomes?
 1. 7% increase in women's cumulative earnings and months worked
 2. 8.1% increase in women's full-year employment and 5.2% in last-year earnings.
 3. Mostly null effects for men
- **How does childhood income changed women's life-cycle dynamics?**
 1. 14.2% increase in women's career-oriented transitions to adulthood

Effects on Mobility/Stability

	Mobility History					Stability in 2023m7		
	Number of Firms	Stayed Same Firm	Low Mobility	Moderate Mobility	High Mobility	Tenure in current job	Log. tenure in current job	Tenure +2 Year in current job
a. Fuzzy RDD Estimate (τ_{FRD})								
Amount Collected (1000s, USD)	0.003 (0.034)	-1.295** (0.578)	-1.632** (0.872)	1.798** (0.855)	-0.161 (0.819)	0.858 (0.577)	0.034** (0.017)	2.606*** (1.052)
Robust p -value	0.859	0.029	0.036	0.027	0.900	0.117	0.024	0.007
Mean Baseline Outcome	2.69	19.75	38.61	28.39	33.24	38.81	3.21	44.16
Effect Size (%)	0.11%	-6.56%	-4.23%	6.33%	-0.48%	2.21%		5.90%
b. Sharp RDD Estimate (τ_{SRD})								
Elig. 1st. App.	0.009 (0.109)	-4.116** (1.820)	-5.267** (2.764)	5.948** (2.787)	-0.519 (2.640)	2.679 (1.796)	0.107** (0.052)	7.933*** (3.112)
Robust p -value	0.859	0.027	0.033	0.025	0.901	0.108	0.021	0.006
Effect Size (%)	0.35%	-20.84%	-13.64%	20.95%	-1.56%	6.90%		17.96%
Opt. Bandwidth	[0.022]	[0.026]	[0.018]	[0.017]	[0.018]	[0.041]	[0.035]	[0.024]
Effective Obs.	10,520	9,098	6,276	5,733	6,310	6,983	6,053	4,835

Effects on Mobility/Stability

	Mobility History					Stability in 2023m7		
	Number of Firms	Stayed Same Firm	Low Mobility	Moderate Mobility	High Mobility	Tenure in current job	Log. tenure in current job	Tenure +2 Year in current job
a. Fuzzy RDD Estimate (τ_{FRD})								
Amount Collected (1000s, USD)	0.003 (0.034)	-1.295** (0.578)	-1.632** (0.872)	1.798** (0.855)	-0.161 (0.819)	0.858 (0.577)	0.034** (0.017)	2.606*** (1.052)
Robust p -value	0.859	0.029	0.036	0.027	0.900	0.117	0.024	0.007
Mean Baseline Outcome	2.69	19.75	38.61	28.39	33.24	38.81	3.21	44.16
Effect Size (%)	0.11%	-6.56%	-4.23%	6.33%	-0.48%	2.21%		5.90%
b. Sharp RDD Estimate (τ_{SRD})								
Elig. 1st. App.	0.009 (0.109)	-4.116** (1.820)	-5.267** (2.764)	5.948** (2.787)	-0.519 (2.640)	2.679 (1.796)	0.107** (0.052)	7.933*** (3.112)
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 1. 7% increase in women's cumulative earnings and months worked
 2. 8.1% increase in women's full-year employment and 5.2% in last-year earnings.
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 1. 14.2% increase in women's career-oriented transitions to adulthood
 2. Consistent with early exploration resulting in higher-quality matches

Results: Earnings Dynamics Around Childbirth

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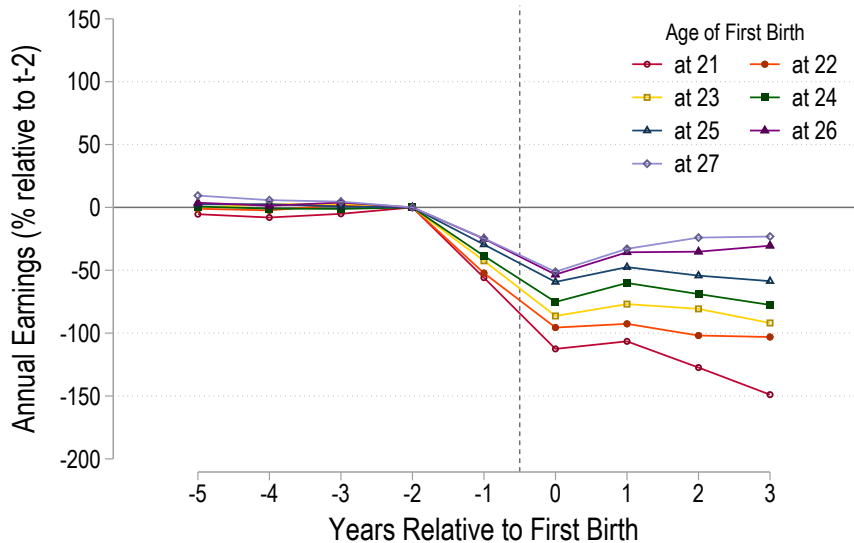
Effects by Mother vs. Non-Mother

	Non-Mothers		Mothers	
	Months	Earnings	Months	Earnings
a. Fuzzy RDD Estimate (τ_{FRD})				
Amount Collected (1000s, USD)	2.749*** (0.844)	1.860*** (0.708)	1.856*** (0.634)	1.176** (0.511)
Robust p -value	0.000	0.006	0.004	0.022
Mean Baseline Outcome	34.70	24.92	39.64	25.07
Effect Size (%)	7.92%	7.47%	4.68%	4.69%
b. Sharp RDD Estimate (τ_{SRD})				
Elig. 1st. App.	8.900*** (2.469)	5.931*** (2.135)	5.899*** (1.974)	3.702** (1.589)
Robust p -value	0.000	0.004	0.003	0.017
Effect Size (%)	25.65%	23.81%	14.88%	14.77%
Opt. Bandwidth	[0.018]	[0.019]	[0.029]	[0.030]
Effective Obs.	3,849	4,106	7,962	8,410

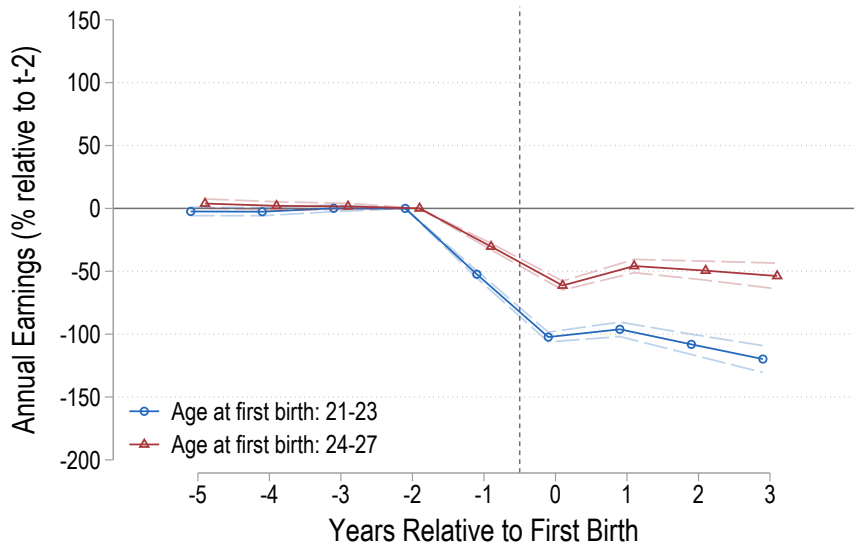
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Child Penalty by Age of First Birth



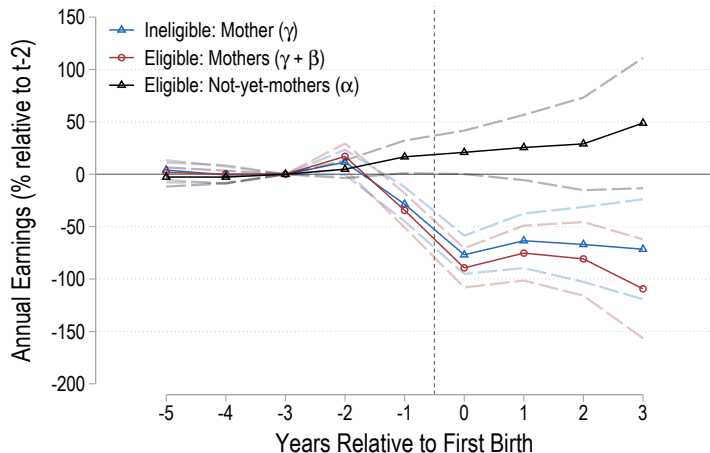
Child Penalty by Age of First Birth



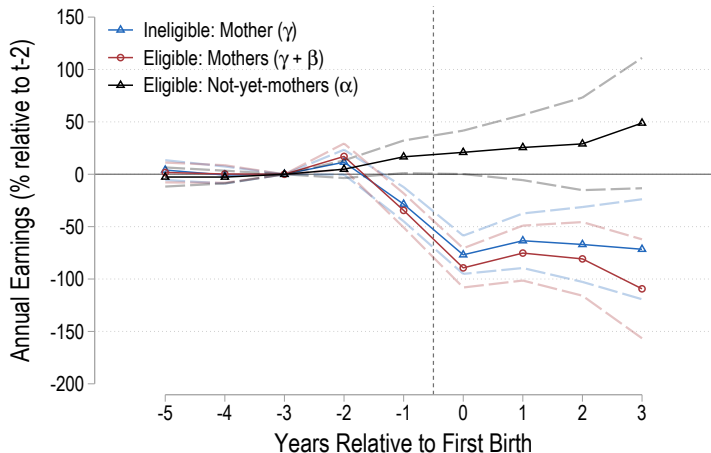
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Effects Around Childbirth by Eligibility Status



Effects Around Childbirth by Eligibility Status



- Caveat: this comparison may partly reflect selection into age-at-first-birth groups
- Specification Unstacked

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 1. Additional childhood income support → more lenient child penalty paths
 2. Delaying motherhood → labor market gains continue accumulating
 3. Conditional on age at first birth, no major differences in post-birth trajectories

Results: Additional Results

Additional Results

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 - Role of human capital explanations, rather than incapacitation.

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- 5- Strong negative effects on adult poverty score, conditional on applying [Go](#)

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- Marginal Value of Public Funds [Go](#)
 - Dynamic MVPF shows positive fiscal returns after age 37

Conclusion

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- Childhood income support improves women's adult earnings.
 - Effects operate through life-cycle decisions that are not direct program targets
 - Lasting consequences for gender gaps, even when not designed for this
- In some settings, cash transfers might dominate more targeted policies
 - Relax household budget constraints → can affect children's health, nutrition, and education, parental investments, and potentially generate positive spillovers
 - May avoid distortions associated with narrowly targeted or in-kind interventions.
- Open questions: persistence into late adulthood, completed fertility, and how effects depend on timing and institutional context

Appendix

Uruguay - Descriptive Statistics

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- Uruguay in context [▶ Comparison to other countries](#)
- GDP Evolution [▶ GDP](#)
- Tax collection and public expenditure [▶ Tax and Expenditure](#)
- Human Development Index [▶ HDI](#)
- Lower Secondary Completion Rate [▶ Lower Sec. Comp. Rate](#)
- Teenage fertility [▶ Teenage Fertility](#)
- Labor Market [▶ Unemployment Rate](#)
- Labor Market & Poverty [▶ Unemployment and Poverty Rates](#)

Uruguay in Context

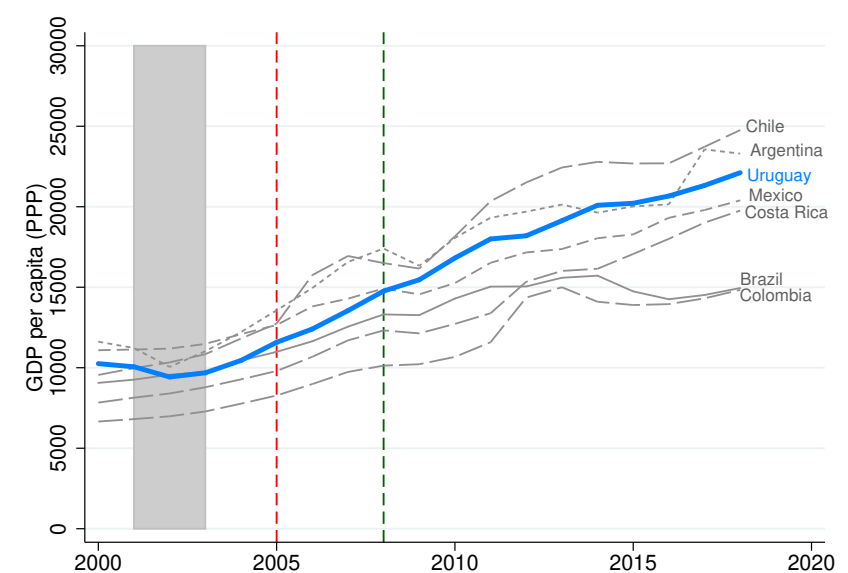
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Table: Uruguay's Background and Comparison to Other Countries

Country	GDP PPP	HDI	HDI Rank	Tax Revenues (% gdp)	Completed Lower Secondary	Adolescent Fertility (per 1000s)	Unemployment rate
Argentina	13,465	0.812	44	24.50	56.38	63.55	11.51
Brazil	11,081	0.718	80	32.70	43.10	75.97	10.55
Chile	12,550	0.804	46	20.80	76.00	50.78	9.34
Colombia	8,432	0.711	84	18.30	40.99	88.12	11.06
Costa Rica	9,899	0.748	65	21.80	39.90	67.14	6.75
Italy	30,138	0.876	23	39.10	68.76	6.77	7.73
Mexico	13,260	0.736	72	10.90	47.68	72.77	3.56
OECD (Avg.)	29,854			32.60		32.68	6.83
Spain	27,630	0.857	29	35.20	62.52	11.50	9.15
Sweden	34,198	0.911	8	47.40	89.14	5.66	7.81
United States	44,123	0.907	13	26.10	93.70	39.47	5.08
Uruguay	12,296	0.778	53	22.90	59.26	60.26	12.01

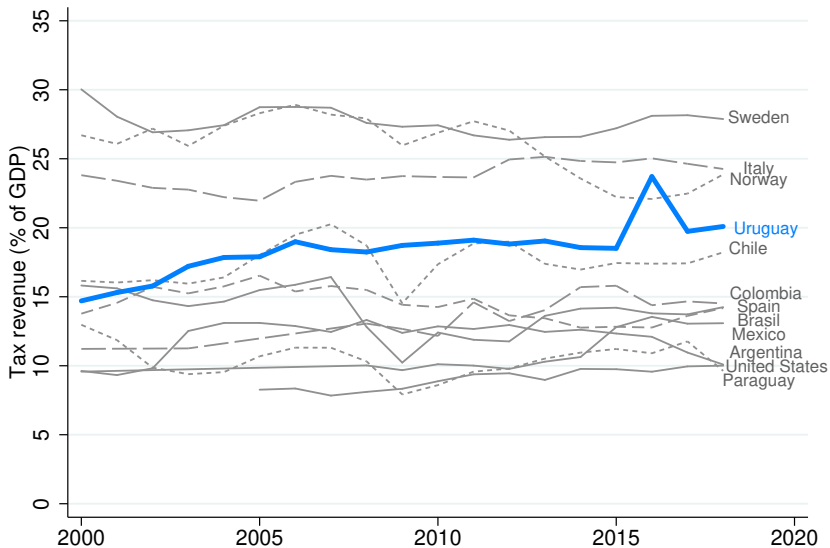
GDP Evolution

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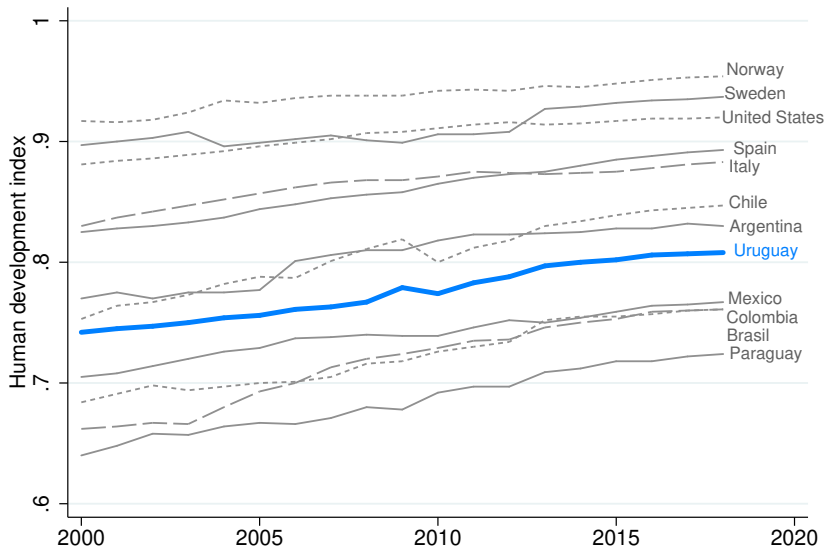
Tax Revenue and Public Expenditure

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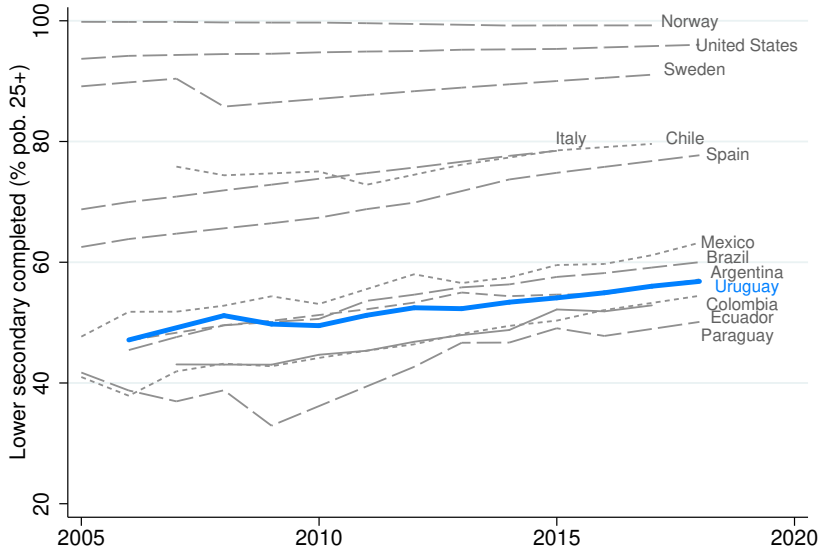
HDI Evolution

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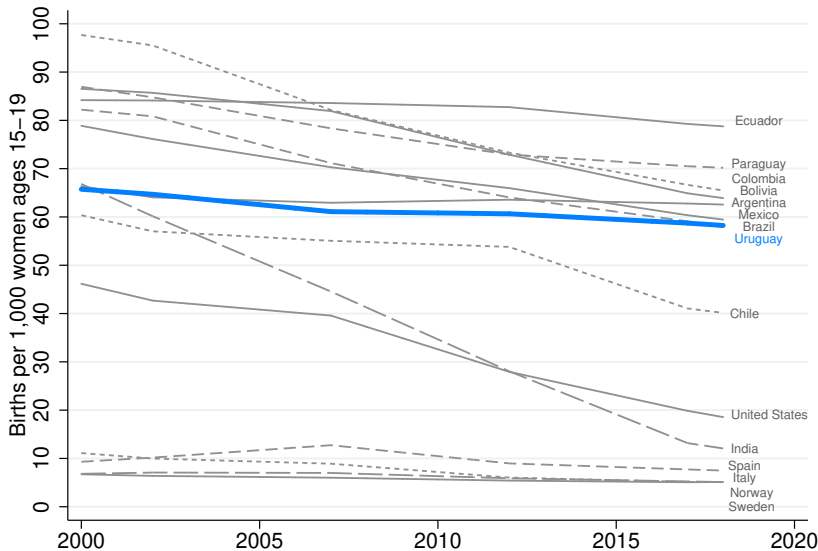
Lower Secondary Completion Rate (+25)

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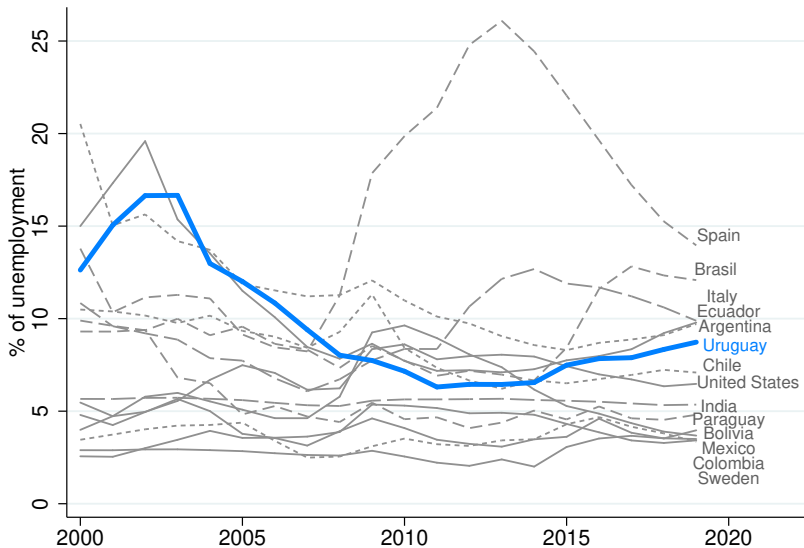
Number of Birth every 1,000 women (15-19)

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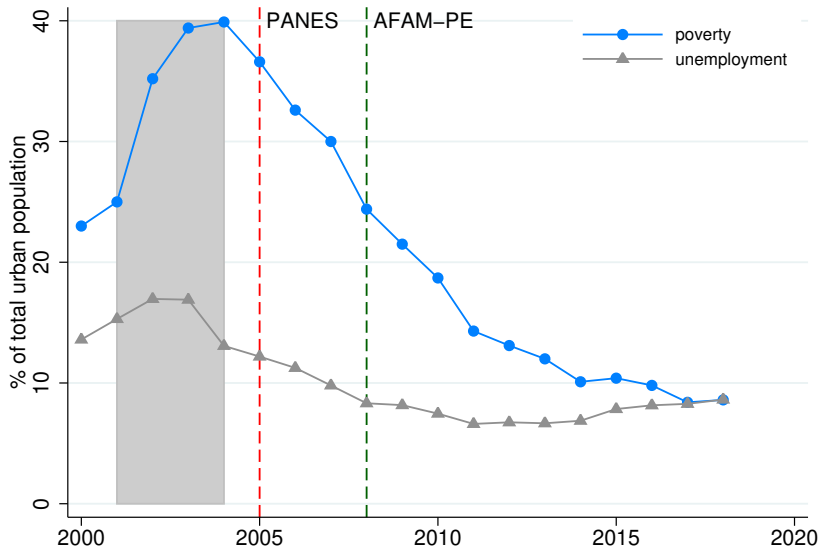
Unemployment Rate

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Unemployment Rate and Poverty in Uruguay

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Background — Poverty Score

- Designed by scholars of the Department of Economics, *Universidad de la Republica*
- Prediction of being below a critical income level based on probit model:
 - Adults' activity status (public employees, retired, etc)
 - Average years of education for individuals over 18 years old
 - Household structure: size, children, etc.
 - Home quality: overcrowding, toilet and access to sanitation, wealth index (durables), floor, ceiling, and walls materials
- Explicit effort to avoid manipulation:
 - Variables, weights and threshold were kept in secret
 - Households are not informed about their score

Existing Studies on PANES/AFAM-PE [▶ Back](#)

- Labor Market (e.g. Bergolo and Cruces, 2021) :
 - 13% reduction in formal employment: both changes in informality and LS
- Fertility, birth outcomes, and HH structures:
 - Increased birthweight associated with improved nutrition (Amarante et al, 2016)
 - Null aggregate effects on women's fertility (Parada, 2024)
 - Mixed evidence on HH power dynamics (Parada, 2023; Bergolo and Galvan 2018)
- Short-run studies on children outcomes:
 - Moderate-to-weak effects on primary educational attainment (Bloomfield and Cabrera, 2026; Amarante et al, 2013)

Descriptive statistics [Back](#)

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Descriptive statistics [Back](#)

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 - 48.5% are women
 - Households have 4.9 members on average
 - 45.3% are single-parent households
- Baseline economic conditions are very poor
 - Household heads have 6.3 years of education on average
 - 64.6% report being employed,
 - Household income is well below the poverty line

Descriptive Statistics

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- [▶ Descriptive Statistics](#)
- [▶ Age Distributions](#)
- [▶ Distribution of Intensity of Treatment](#)
- [▶ Descriptive Statistics: Outcomes of Interest](#)

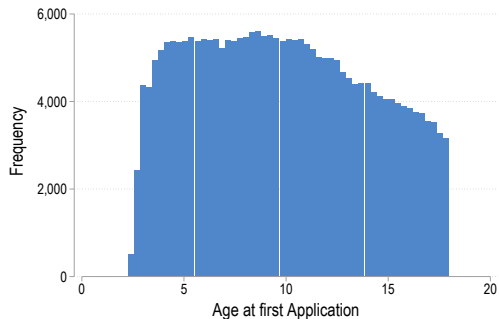
Descriptive Statistics [▶ Back](#)

	Universe		Full Sample		Main Sample	
	Full Support (1)	Bdwr: 0.02 (2)	Full Support (3)	Bdwr: 0.02 (4)	Full Support (5)	Bdwr: 0.02 (6)
a. Individual Characteristics						
Female (%)	53.17 (49.90)	53.84 (49.85)	49.70 (50.00)	49.62 (50.00)	48.50 (49.98)	48.63 (49.98)
Avg. Number of Applications	2.41 (1.48)	2.47 (1.46)	2.85 (1.56)	2.82 (1.50)	3.24 (1.40)	3.04 (1.37)
Age of 1st Application	20.30 (20.68)	22.95 (21.22)	10.69 (4.13)	10.68 (4.19)	9.84 (4.22)	10.16 (4.26)
Age at 31 Dec. 2021	32.72 (21.05)	36.35 (21.60)	25.49 (4.03)	25.91 (4.16)	26.02 (4.21)	26.31 (4.25)
b. Reference Form						
Std. Score	0.15 (0.23)	0.00 (0.01)	0.17 (0.24)	0.00 (0.01)	0.16 (0.21)	-0.00 (0.01)
App. Accepted (%)	65.92 (47.40)	49.28 (50.00)	71.25 (45.26)	54.22 (49.82)	76.02 (42.70)	57.35 (49.46)
Capital City (%)	34.50 (47.54)	22.95 (42.05)	31.81 (46.57)	19.81 (39.86)	27.06 (44.43)	15.50 (36.19)
c. Household characteristics (ref. form)						
Number of Members	4.10 (1.76)	3.67 (1.64)	4.74 (1.91)	4.17 (1.79)	4.94 (1.99)	4.26 (1.88)
Single Parent (%)	43.84 (49.62)	50.18 (50.00)	45.40 (49.79)	52.07 (49.96)	45.28 (49.78)	52.91 (49.92)
Mother's Age When 1st Born	23.38 (7.52)	24.48 (7.81)	23.01 (7.01)	24.11 (7.31)	22.56 (6.62)	23.94 (7.14)
Avg. age	23.62 (11.39)	26.07 (11.70)	21.80 (7.40)	23.54 (7.93)	20.98 (7.21)	23.14 (8.00)
Baseline App. Before Sep.2005	18.58 (38.89)	23.08 (42.13)	28.31 (45.05)	30.36 (45.98)	41.07 (49.20)	38.75 (48.72)
Household Head: Employed (%)	56.70 (49.55)	59.37 (49.11)	61.65 (48.62)	61.67 (48.62)	64.58 (47.83)	62.63 (48.38)
Household Head: Ed. years	6.91 (2.81)	6.94 (2.88)	6.58 (2.59)	6.79 (2.61)	6.30 (2.35)	6.56 (2.44)
Household Head: income	163.19 (250.29)	155.65 (215.64)	155.28 (212.59)	155.36 (187.65)	121.30 (135.00)	130.84 (131.90)
Observations	1,711,132	128,021	420,383	32,771	248,693	25,030

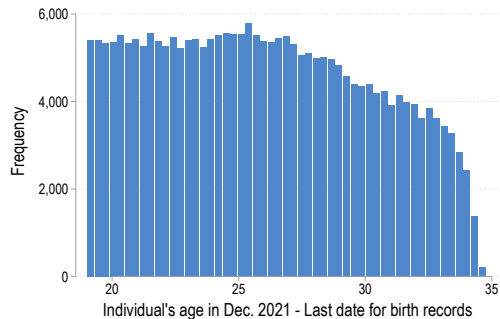
Distribution of Age Dec. 2021

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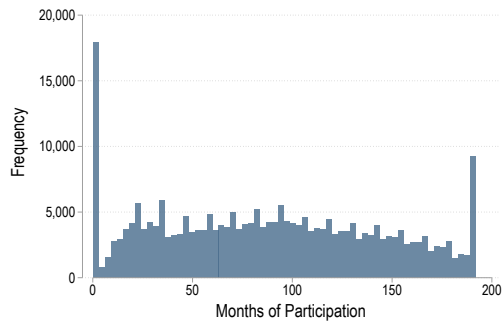
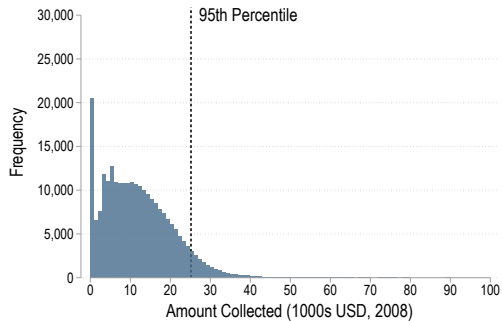
Age at First App.



Age in December 2021



Additional Statistics *Full Sample*

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Descriptive Statistics: Outcomes of Interest [▶ Back](#)

	Full Sample				Main Sample			
	Full Support		Opt. Bdw.		Full Support		Opt. Bdw.	
	Women (1)	Men (2)	Women (3)	Men (4)	Women (5)	Men (6)	Women (7)	Men (8)
a. PANES/AFAM-PE Participation Outcomes, before 18yo								
Total Transfer Collected (1000s, USD)	9.40 (7.55)	9.40 (7.43)	7.87 (6.92)	7.89 (6.88)	11.67 (7.59)	11.43 (7.50)	9.08 (7.02)	9.01 (7.02)
Months in the PANES/AFAM-PE	73.88 (55.17)	73.76 (54.24)	65.64 (53.57)	65.49 (52.96)	88.25 (56.01)	86.27 (55.26)	74.01 (54.36)	72.88 (53.83)
Ever Treated before 18yo (%)	88.21 (32.25)	87.86 (32.66)	84.15 (36.53)	84.17 (36.50)	92.01 (27.11)	91.85 (27.35)	87.08 (33.55)	87.09 (33.53)
b. Labor Market Outcomes								
Last Observed: Employed in the last year	55.59 (49.69)	60.86 (48.81)	58.63 (49.25)	62.75 (48.35)	52.49 (49.94)	58.25 (49.31)	56.09 (49.63)	61.23 (48.73)
Last Observed: Months Worked in the last year	4.69 (5.11)	5.13 (5.11)	5.13 (5.21)	5.41 (5.15)	4.31 (5.01)	4.77 (5.04)	4.84 (5.17)	5.17 (5.11)
Last Observed: Total Earnings (1000s, USD)	3.53 (5.05)	4.47 (5.72)	4.03 (5.43)	4.80 (5.90)	3.16 (4.83)	4.13 (5.59)	3.76 (5.32)	4.58 (5.83)
Last Observed: Total Earnings (1000s, USD), (>0)	6.61 (6.21)	7.80 (7.31)	7.21 (6.56)	8.18 (7.76)	6.25 (6.05)	7.48 (7.02)	7.03 (6.49)	7.94 (7.25)
Last Observed: Tenure in current job	34.44 (33.18)	38.68 (37.07)	37.90 (35.73)	40.93 (38.61)	35.62 (35.07)	40.04 (39.19)	38.91 (37.09)	42.36 (40.38)
Cumulative: Ever Employed (%)	67.80 (46.72)	74.77 (43.43)	71.37 (45.21)	77.24 (41.93)	66.00 (47.37)	74.02 (43.85)	69.97 (45.84)	76.95 (42.12)
Cumulative: Months Worked	32.84 (39.33)	41.24 (43.49)	37.41 (42.12)	45.52 (45.94)	32.11 (40.19)	41.88 (45.07)	37.03 (42.96)	46.41 (47.28)
Cumulative: Total Earnings (1000s, USD)	21.51 (31.82)	30.04 (37.36)	25.27 (34.95)	33.43 (39.37)	20.43 (31.68)	29.74 (37.75)	24.62 (35.08)	33.58 (39.83)
Cumulative: Number of Different Employers	2.54 (2.72)	3.41 (3.21)	2.70 (2.75)	3.58 (3.23)	2.48 (2.73)	3.56 (3.33)	2.66 (2.76)	3.71 (3.32)
Observations	208,932	211,451	16,261	16,510	120,610	128,083	12,173	12,857

Descriptive Statistics: Outcomes of Interest [▶ Back](#)

	Full Sample				Main Sample			
	Full Support		Opt. Bdw.		Full Support		Opt. Bdw.	
	Women (1)	Men (2)	Women (3)	Men (4)	Women (5)	Men (6)	Women (7)	Men (8)
c. Transition Outcomes								
Market Oriented (%)	25.17 (43.40)	33.90 (47.34)	27.74 (44.77)	35.90 (47.97)	20.17 (40.13)	31.13 (46.30)	23.55 (42.43)	33.93 (47.35)
Age at 1st Birth	19.65 (3.17)	22.34 (3.32)	20.02 (3.39)	22.65 (3.41)	19.56 (3.22)	22.50 (3.39)	19.98 (3.42)	22.75 (3.45)
Birth Before 19 (%)	21.16 (40.85)	2.12 (14.40)	18.75 (39.03)	2.04 (14.12)	25.00 (43.30)	2.32 (15.06)	21.13 (40.82)	2.19 (14.65)
Age at 1st Employment	20.42 (2.77)	19.56 (2.32)	20.57 (2.85)	19.57 (2.38)	20.64 (2.92)	19.66 (2.44)	20.70 (2.93)	19.64 (2.48)
Job Before 19 (%)	18.73 (39.02)	30.47 (46.03)	18.71 (39.00)	31.89 (46.61)	16.97 (37.54)	29.47 (45.59)	17.35 (37.87)	31.41 (46.42)
Enrolled in University (%)	11.60 (32.02)	5.61 (23.02)	14.43 (35.14)	6.40 (24.47)	7.69 (26.65)	3.31 (17.90)	10.96 (31.24)	4.52 (20.77)
d. Fertility Outcomes								
Had a Birth (%)	52.16 (49.95)	19.66 (39.74)	50.11 (50.00)	20.99 (40.73)	58.91 (49.20)	22.37 (41.67)	55.25 (49.73)	23.39 (42.33)
Number of Births	0.87 (1.05)	0.25 (0.57)	0.82 (1.02)	0.27 (0.59)	1.02 (1.11)	0.29 (0.61)	0.92 (1.05)	0.31 (0.62)
Observations	208,932	211,451	16,261	16,510	120,610	128,083	12,173	12,857

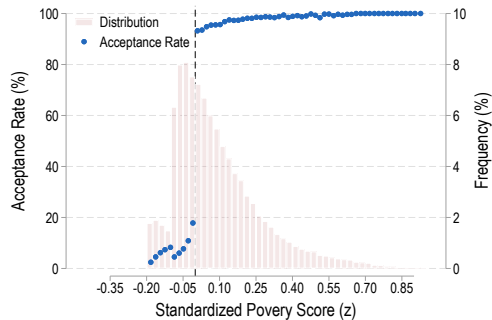
Descriptive Statistics: Outcomes of Interest [▶ Back](#)

	Full Sample				Main Sample			
	Full Support		Opt. Bdw.		Full Support		Opt. Bdw.	
	Women (1)	Men (2)	Women (3)	Men (4)	Women (5)	Men (6)	Women (7)	Men (8)
e. Secondary Education Outcomes								
Ever Enrolled in Secondary School (%)	78.43 (41.13)	65.19 (47.64)	80.79 (39.39)	67.21 (46.95)	77.10 (42.02)	61.56 (48.64)	80.00 (40.00)	64.74 (47.78)
Years Enrolled in Secondary School	3.69 (3.00)	2.63 (2.74)	3.97 (3.03)	2.79 (2.80)	3.62 (3.04)	2.40 (2.68)	3.97 (3.09)	2.65 (2.78)
Ever Enrolled in Grade 12 (%)	27.71 (44.76)	13.18 (33.82)	33.12 (47.07)	15.51 (36.20)	21.79 (41.28)	9.08 (28.73)	28.74 (45.26)	12.06 (32.56)
Max. Grade Enrolled in Secondary	10.09 (1.77)	9.39 (1.78)	10.36 (1.69)	9.56 (1.77)	9.79 (1.79)	9.06 (1.73)	10.17 (1.73)	9.32 (1.75)
f. Welfare Outcomes								
Applied as Adult (%)	34.47 (47.53)	15.59 (36.27)	31.07 (46.28)	14.94 (35.65)	40.49 (49.09)	18.43 (38.78)	35.01 (47.70)	16.82 (37.40)
Age at 1st Application as Adult	21.47 (3.59)	22.85 (3.61)	21.82 (3.78)	23.18 (3.70)	21.46 (3.66)	22.92 (3.68)	21.82 (3.84)	23.20 (3.75)
Accepted as Adult (%)	32.23 (46.74)	14.61 (35.32)	28.53 (45.16)	13.86 (34.55)	38.04 (48.55)	17.30 (37.82)	32.37 (46.79)	15.65 (36.33)
Number of Payments Received	20.31 (38.64)	8.27 (25.32)	18.04 (37.19)	7.86 (24.89)	25.40 (42.81)	10.28 (28.41)	21.08 (39.82)	9.11 (26.80)
Std. Poverty Score	0.25 (0.19)	0.32 (0.18)	0.23 (0.19)	0.29 (0.17)	0.26 (0.19)	0.33 (0.18)	0.23 (0.19)	0.30 (0.17)
Observations	208,932	211,451	16,261	16,510	120,610	128,083	12,173	12,857

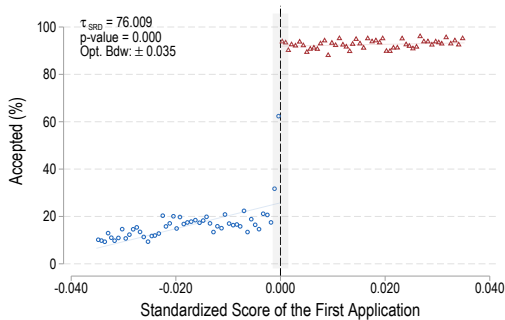
Eligibility rule from the perspective of administrator

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(a) Full Distribution



(b) Optimal Bandwidth



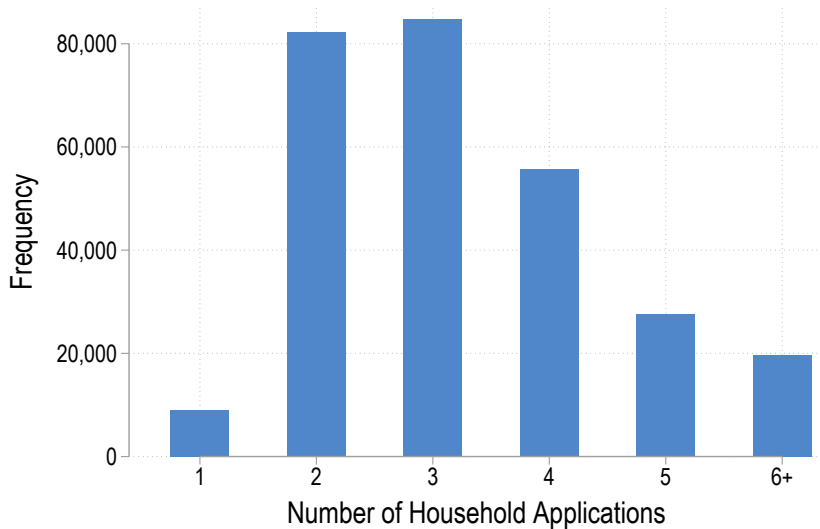
More on Eligibility Rule and Applications

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- ▶ Distribution of Number of Applications
- ▶ Conditional Acceptance Rate by Application
- ▶ Average Score by Application and Status
- ▶ Change in Score by Application and Status
- ▶ Distribution of Reference Forms

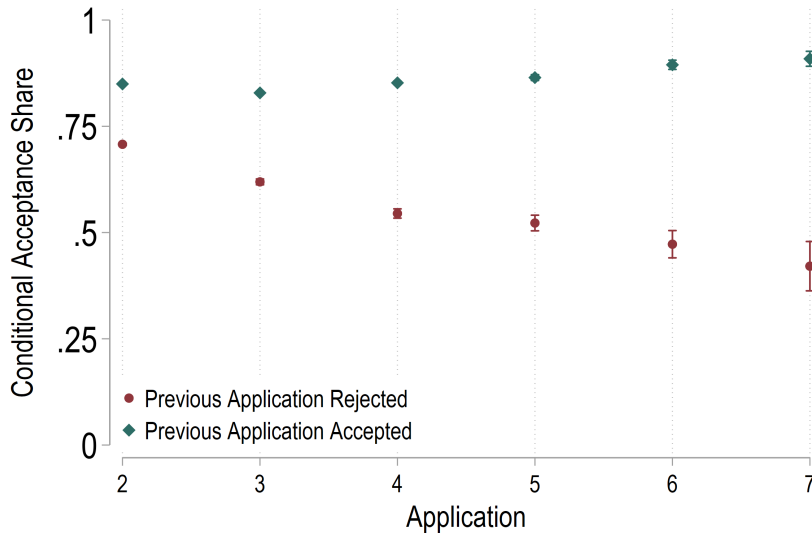
Distribution of Number of Applications

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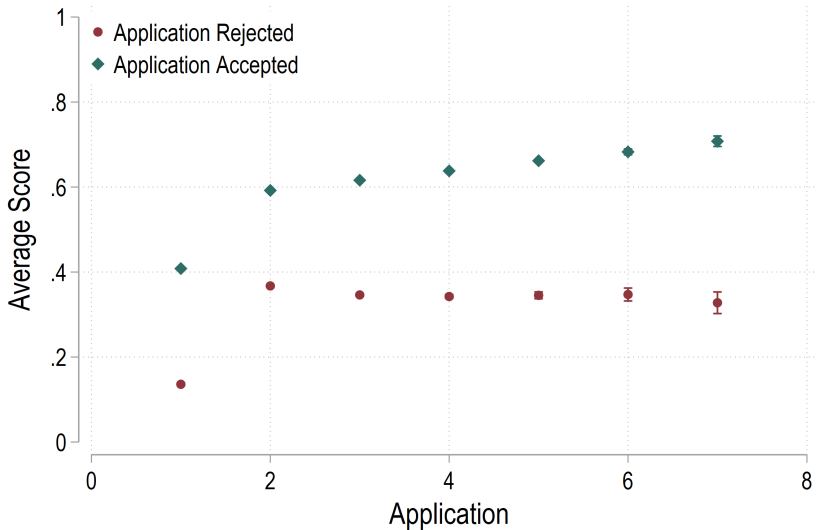
Conditional Acceptance Rate by Application

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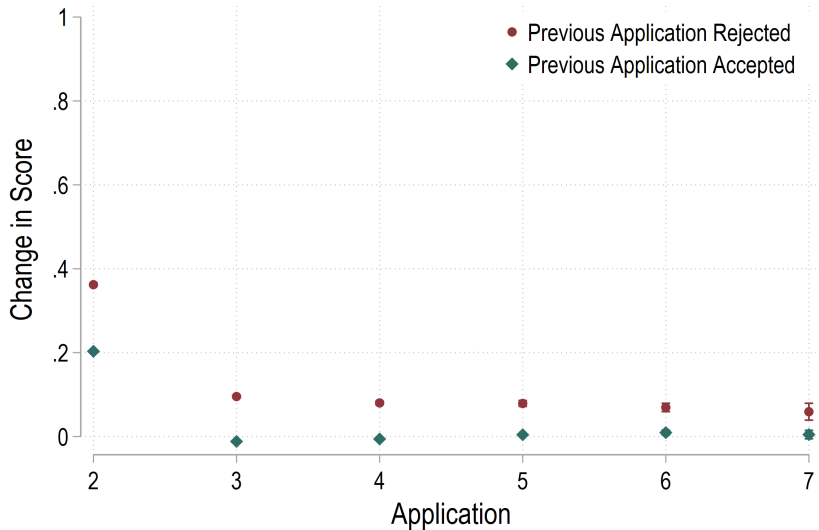
Average Score by Application and Status

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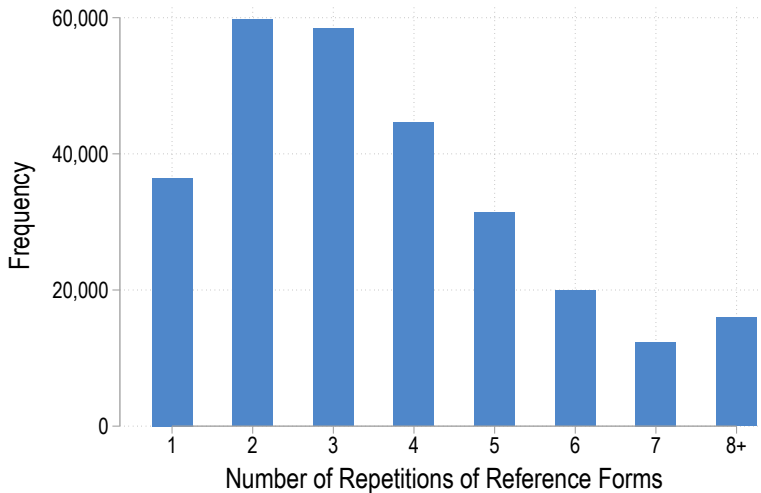


Change in Score by Application and Status

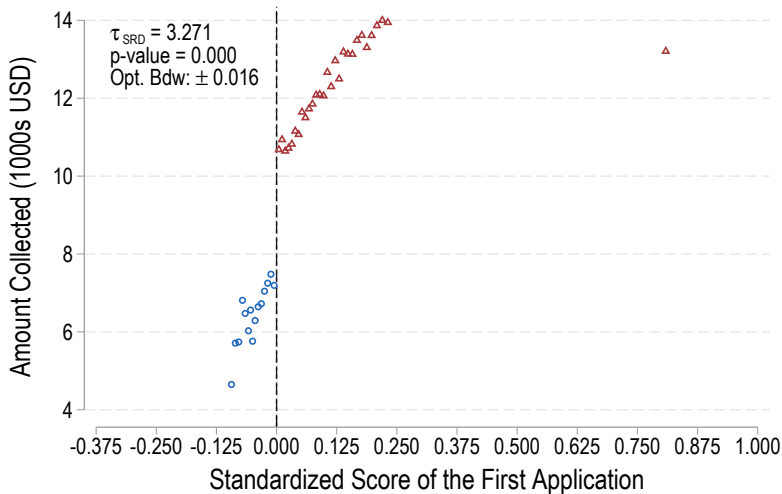
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Distribution of Reference Forms

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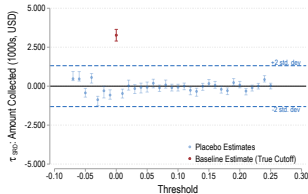
First Stage - Full Support

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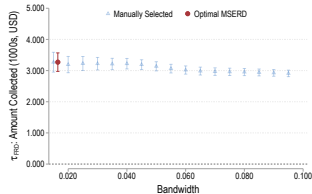
First Stage - Robustness

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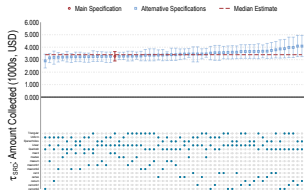
(a) Placebo Thresholds



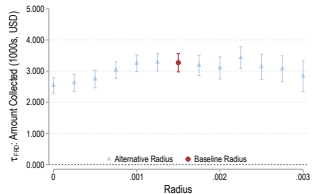
(b) Manual Bandwidth Selection



(c) Specification Curves

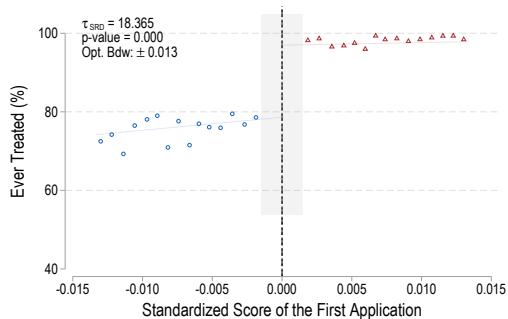


(d) Change in Donut Radius

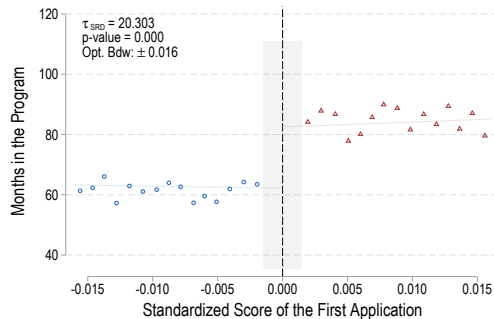


First Stage - Alternative Endogenous Variable [▶ Back](#)

a. Ever Treated Before 18yo

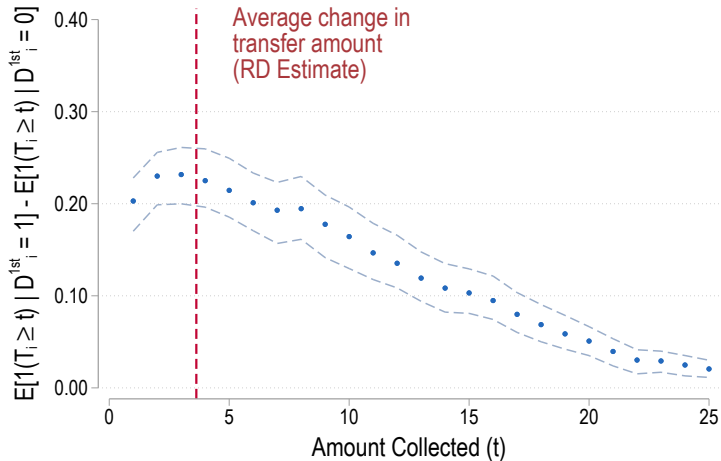


b. Months in the Program



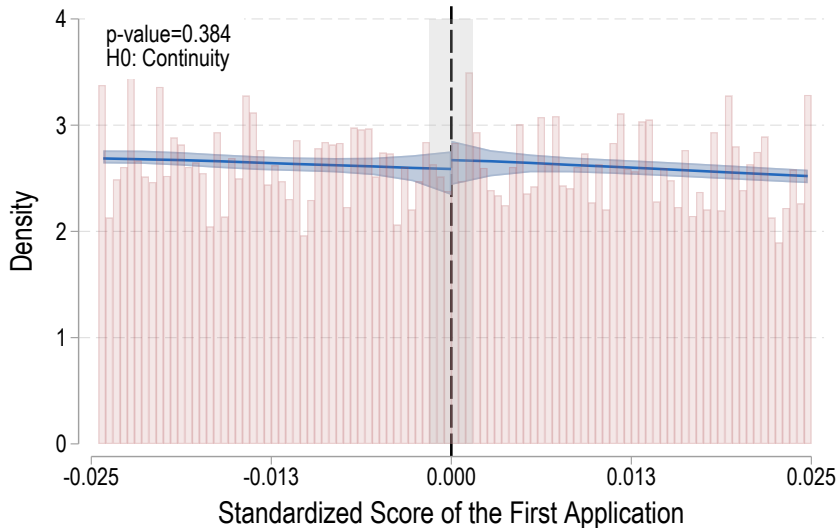
Monotonicity Test

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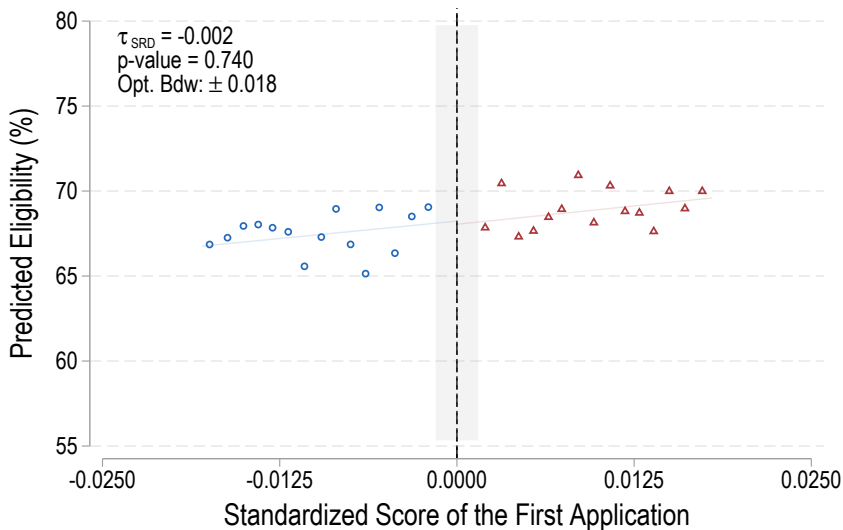


- 1st. time elig. $\uparrow$ exposure to treatment across the distribution (Angrist, 1995; Rose and

The running variable is continuous at the threshold

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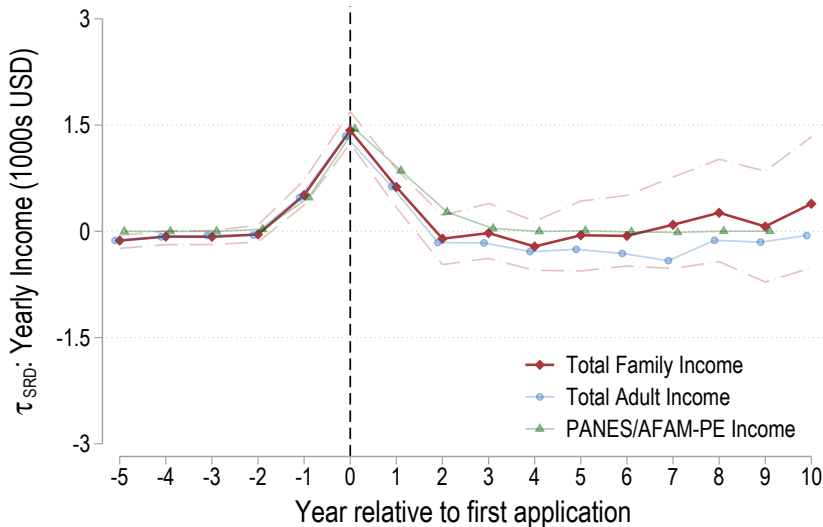
No systematic discontinuities in baseline covariates

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Continuity at Baseline — One by one [▶ Back](#)

	Ineligible Adj. Mean	Eligible Intercept	Difference (2) - (1)	p-value Robust
	(1)	(2)	(3)	(4)
Predicted Eligibility	0.66	0.66	-0.002	0.740
HH - Number of people	3.98	3.94	-0.047	0.551
HH - Single Parent	57.37	54.28	-3.091	0.121
HH - Mother's Age when First born	22.52	22.56	0.041	0.778
HH - Avg. Age	19.39	21.00	1.614	0.000
HH - Baseline App. Before Sep.2005	5.63	7.22	1.589	0.756
HHH - Employed	63.12	64.38	1.264	0.373
HHH - Years of Educ.	7.18	7.03	-0.148	0.118
HHH - Self-reported Labor Income	0.15	0.15	-0.001	0.759
Female	49.70	48.59	-1.113	0.195
Number of applications	2.71	2.79	0.082	0.102
Age at 1st. Application	4.67	4.67	0.000	0.797
Age at 31 Dec. 2021	19.50	19.50	-0.003	0.761

Household Income Dynamics

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Interpretation of the First Stage [Back](#)

- Eligibility generates a large increase in cumulative transfers during childhood
 - Ineligible households collect about USD 7,600
 - Eligible households collect about USD 10,900
 - Discontinuity: USD 3,300, or 43.4%

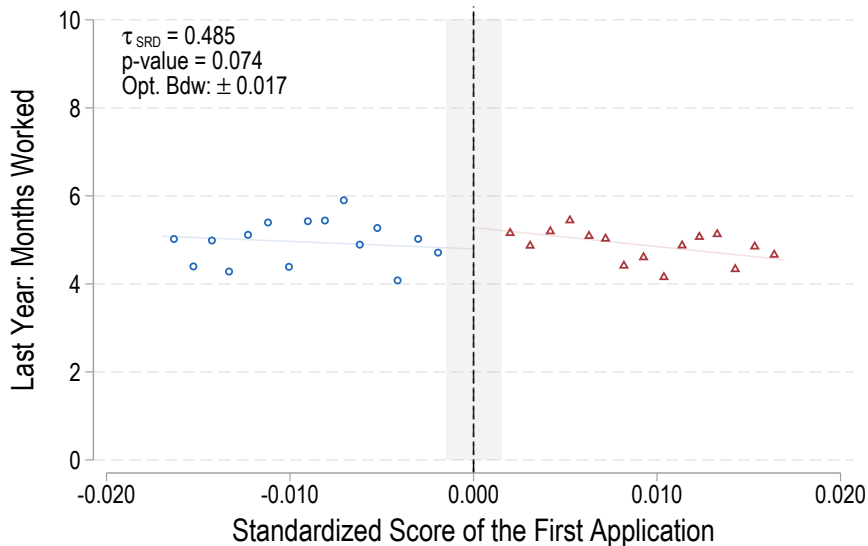
Interpretation of the First Stage [Back](#)

- Eligibility generates a large increase in cumulative transfers during childhood
 - Ineligible households collect about USD 7,600
 - Eligible households collect about USD 10,900
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- This first stage does not represent a single margin
 - Earlier entry, probability of ever receiving benefits, and duration of benefits

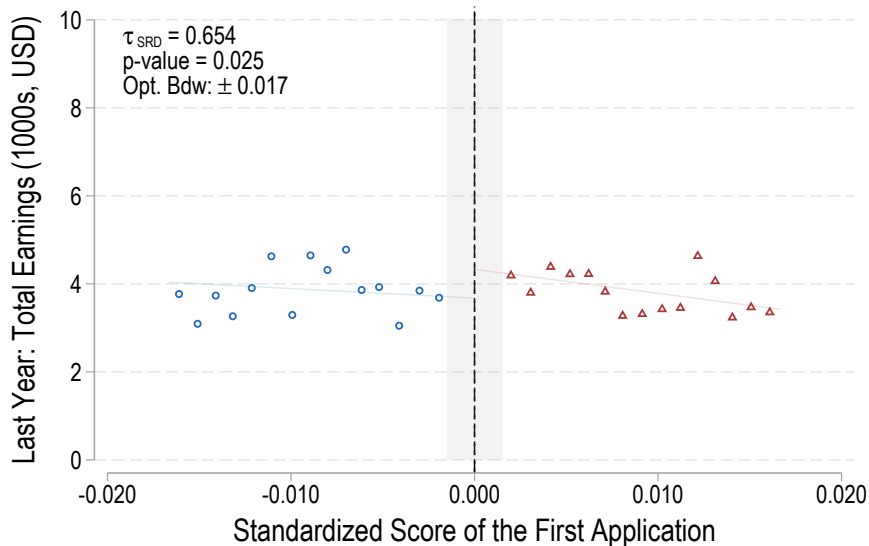
Interpretation of the First Stage [Back](#)

- Eligibility generates a large increase in cumulative transfers during childhood
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- This first stage does not represent a single margin
 - Earlier entry, probability of ever receiving benefits, and duration of benefits
- Interpretation:
 - A dollar-scaled estimate of the first-time eligibility-induced bundle of childhood income support

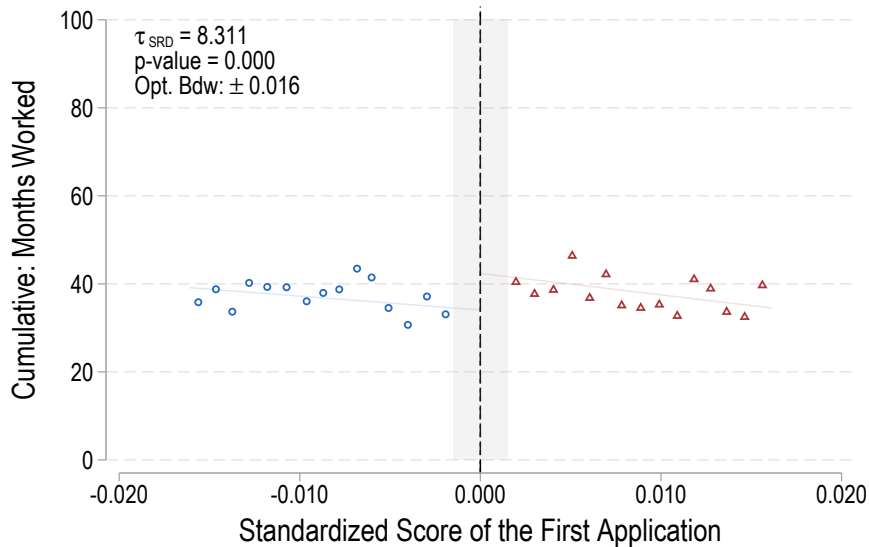
Effects on Women's Last-Year Months Worked

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Effects on Women's Last-Year Earnings

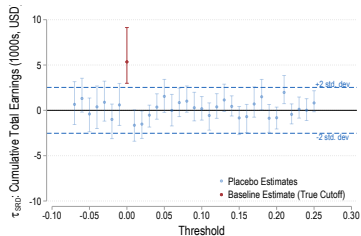
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Effects on Women's Cumulative Months Worked

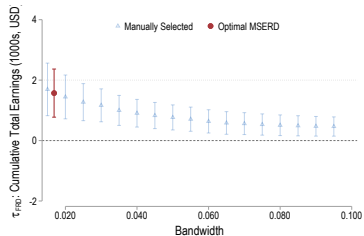
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Robustness/Sensitivity - Women's Outcomes [Back](#)

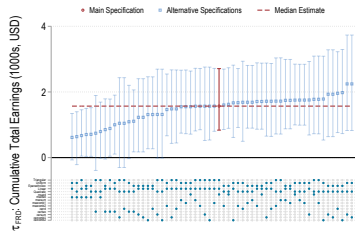
a. Placebo Thresholds



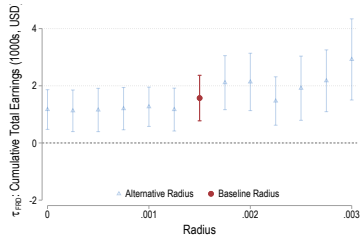
b. Manual Bandwidth Selection



c. Specification Curves



d. Change in Donut Radius

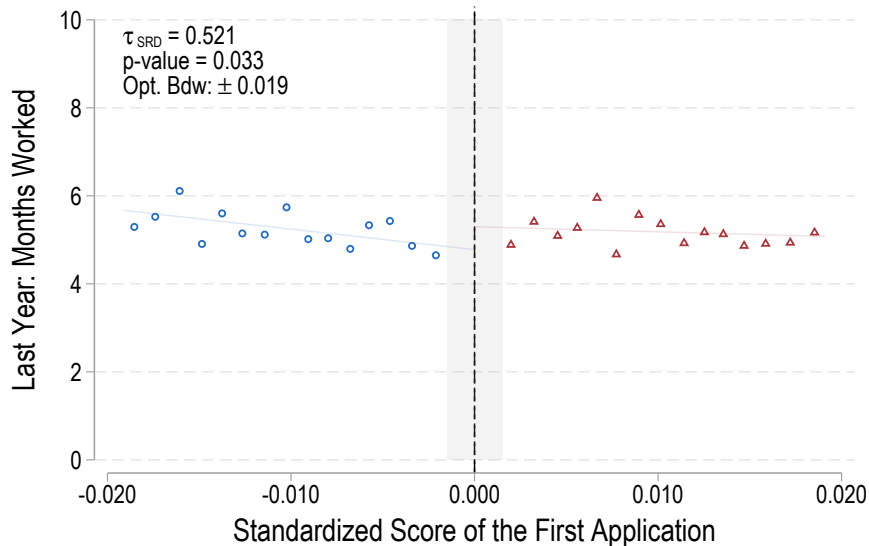


Effects on Men's Cumulative Earnings — Full Estimates [Back](#)

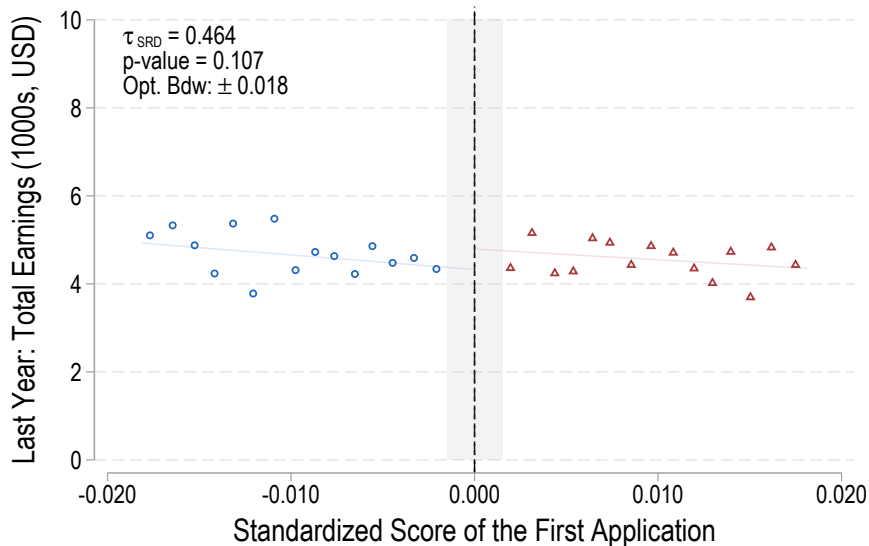
	Last Year		Cumulative	
	Months	Earnings	Months	Earnings
a. Fuzzy RDD Estimate (τ_{FRD})				
Amount Collected (1000s, USD)	0.161** (0.073)	0.142 (0.085)	0.607 (0.558)	0.252 (0.494)
Robust <i>p</i> -value	0.039	0.115	0.237	0.561
Mean Baseline Outcome	5.24	4.69	47.91	34.84
Effect Size (%)	3.07%	3.04%	1.27%	0.72%
b. Sharp RDD Estimate (τ_{SRD})				
Elig. 1st. App.	0.521** (0.232)	0.464 (0.273)	1.968 (1.796)	0.817 (1.597)
Robust <i>p</i> -value	0.033	0.107	0.228	0.555
Mean Baseline Outcome	5.24	4.69	47.91	34.84
Effect Size (%)	9.95%	9.89%	4.11%	2.34%
Selection of Bandwidth:				
Opt. Bandwidth	[0.019]	[0.018]	[0.019]	[0.019]
Effective Obs.	9,718	9,196	9,729	9,653

[Last-Year Months Worked](#)
[Last-Year Earnings](#)
[Months Worked](#)
[Cumulative Earnings](#)
[Additional, Men](#)
[Firms, Men](#)
[Industry, Men](#)

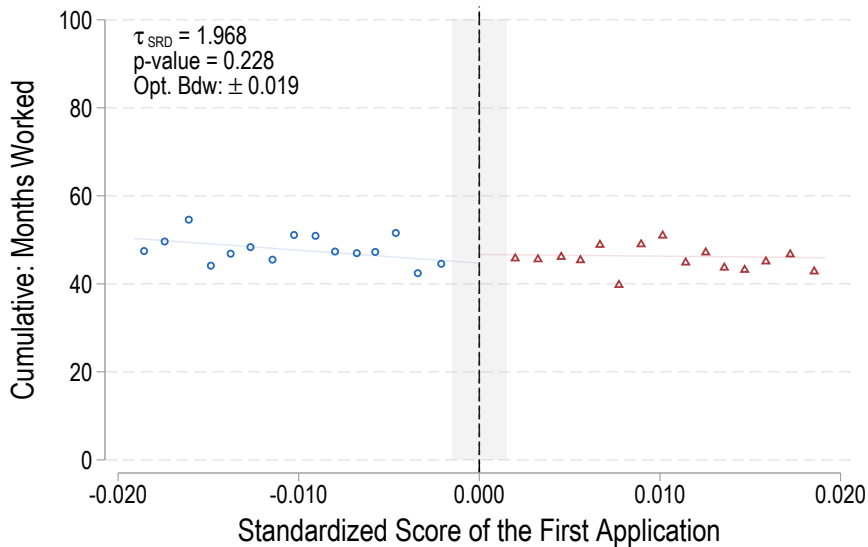
Effects on Men's Last-Year Months Worked

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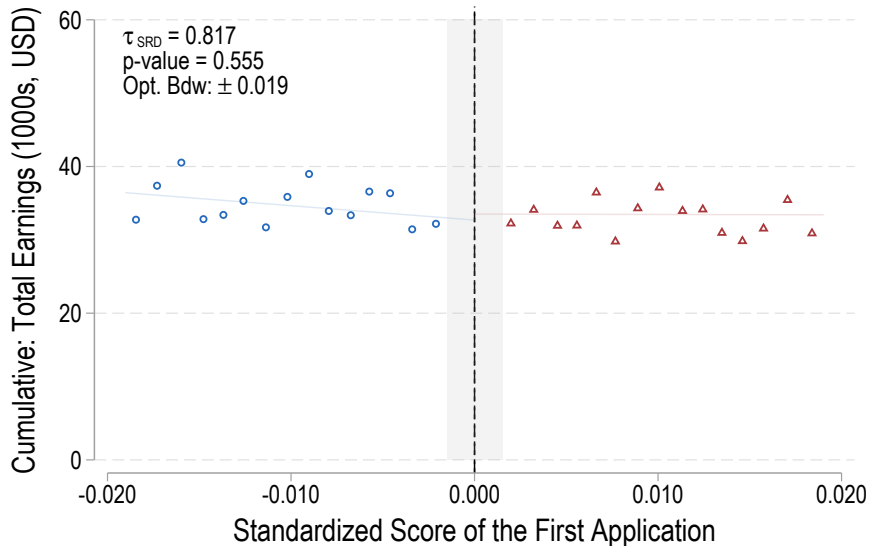
Effects on Men's Last-Year Earnings

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Effects on Men's Cumulative Months Worked

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Effects on Men's Cumulative Earnings

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Additional Labor Market Outcomes, Women [Back](#)

	Labor Market Attachment				Earnings Cond. on Emp.	
	Ever Employed (1)	Ever Employed Last Year (2)	Fully Employed Last Year (3)	Employed in 2023m7 (4)	Log. Wage 2023m7 (5)	Last Year Log. Earnings (6)
a. Fuzzy RDD Estimate (τ_{FRD})						
Amount Collected (1000s, USD)	-0.372 (0.678)	0.033 (0.531)	2.088*** (0.737)	1.373* (0.721)	0.010 (0.012)	0.028 (0.021)
Robust <i>p</i> -value	0.667	0.941	0.007	0.057	0.182	0.181
Mean Baseline Outcome	71.80	57.14	25.84	40.79	-0.42	1.35
Effect Size (%)	-0.52%	0.06%	8.08%	3.37%		
b. Sharp RDD Estimate (τ_{SRD})						
Elig. 1st. App.	-1.217 (2.219)	0.107 (1.697)	6.885*** (2.361)	4.364* (2.257)	0.031 (0.037)	0.089 (0.065)
Robust <i>p</i> -value	0.666	0.939	0.005	0.054	0.173	0.173
Mean Baseline Outcome	71.80	57.14	25.84	40.79	-0.42	1.35
Effect Size (%)	-1.69%	0.19%	26.64%	10.70%		
c. First Stage (τ_{SRD})						
Elig. 1st. App.	3.271*** (0.271)	3.194*** (0.181)	3.298*** (0.289)	3.178*** (0.244)	3.113*** (0.215)	3.186*** (0.254)
Robust <i>p</i> -value	0.000	0.000	0.000	0.000	0.000	0.000
Mean Baseline Outcome	7.47	7.35	7.53	7.52	6.21	6.83
Effect Size (%)	43.77%	43.45%	43.78%	42.26%	50.14%	46.66%
Selection of Bandwidth:						
Opt. Bandwidth	[0.017]	[0.031]	[0.016]	[0.020]	[0.042]	[0.027]
Effective Obs.	8,210	15,390	7,527	9,645	8,732	7,628

Additional Labor Market Outcomes, Men [Back](#)

	Labor Market Attachment				Earnings Cond. on Emp.	
	Ever Employed (1)	Ever Employed Last Year (2)	Fully Employed Last Year (3)	Employed in 2023m7 (4)	Log. Wage 2023m7 (5)	Last Year Log. Earnings (6)
a. Fuzzy RDD Estimate (τ_{FRD})						
Amount Collected (1000s, USD)	0.169 (0.562)	0.944 (0.680)	1.002 (0.594)	1.872** (0.689)	-0.016 (0.012)	0.047* (0.027)
Robust <i>p</i> -value	0.726	0.138	0.126	0.012	0.240	0.083
Mean Baseline Outcome	78.00	61.97	25.35	39.18	-0.25	1.48
Effect Size (%)	0.22%	1.52%	3.95%	4.78%		
b. Sharp RDD Estimate (τ_{SRD})						
Elig. 1st. App.	0.546 (1.818)	3.049 (2.182)	3.237 (1.903)	6.048*** (2.176)	-0.050 (0.038)	0.152* (0.083)
Robust <i>p</i> -value	0.722	0.131	0.118	0.009	0.229	0.073
Mean Baseline Outcome	78.00	61.97	25.35	39.18	-0.25	1.48
Effect Size (%)	0.70%	4.92%	12.77%	15.44%		
c. First Stage (τ_{SRD})						
Elig. 1st. App.	3.237*** (0.228)	3.228*** (0.221)	3.230*** (0.224)	3.230*** (0.224)	3.048*** (0.221)	3.230*** (0.310)
Robust <i>p</i> -value	0.000	0.000	0.000	0.000	0.000	0.000
Mean Baseline Outcome	7.37	7.37	7.38	7.37	6.39	7.02
Effect Size (%)	43.91%	43.78%	43.77%	43.80%	47.66%	46.00%
Selection of Bandwidth:						
Opt. Bandwidth	[0.019]	[0.020]	[0.020]	[0.020]	[0.039]	[0.017]
Effective Obs.	9,864	10,379	10,166	10,129	8,292	5,229

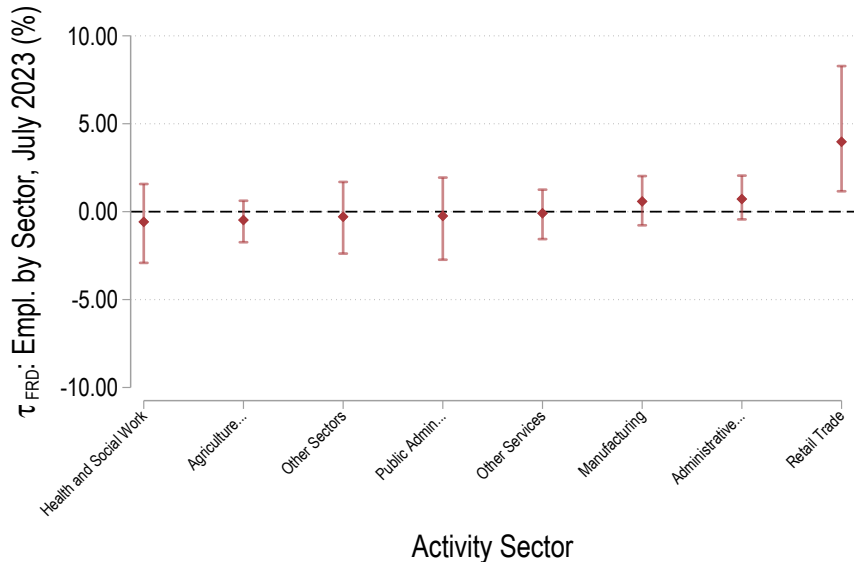
Effects on Firms Characteristics, Women [Back](#)

	Log Number of Employees (1)	Log Total Wage Bill (2)	Log Median Wage (3)	Log Firm's Age Since 2005 (4)
a. Fuzzy RDD Estimate (τ_{FRD})				
Amount Collected (1000s, USD)	-0.014 (0.070)	-0.001 (0.079)	0.016 (0.013)	-0.010 (0.021)
Robust <i>p</i> -value	0.671	0.791	0.205	0.591
Mean Baseline Outcome	4.85	11.60	6.66	4.68
b. Sharp RDD Estimate (τ_{SRD})				
Elig. 1st. App.	-0.043 (0.211)	-0.003 (0.240)	0.049 (0.040)	-0.030 (0.064)
Robust <i>p</i> -value	0.672	0.791	0.192	0.586
Mean Baseline Outcome	4.85	11.60	6.66	4.68
c. First Stage (τ_{SRD})				
Elig. 1st. App.	3.015*** (0.322)	3.039*** (0.309)	3.118*** (0.255)	3.115*** (0.264)
Robust <i>p</i> -value	0.000	0.000	0.000	0.000
Mean Baseline Outcome	6.42	6.42	6.34	6.31
Effect Size (%)	46.97%	47.36%	49.18%	49.39%
Selection of Bandwidth:				
Opt. Bandwidth	[0.022]	[0.024]	[0.032]	[0.030]
Effective Obs.	4,505	4,753	6,557	6,197

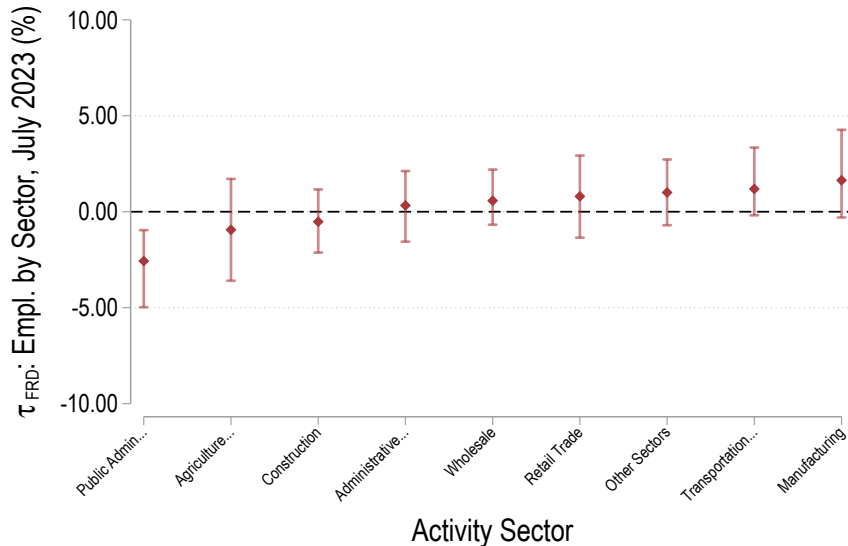
Effects on Firms Characteristics, Men [Back](#)

	Log Number of Employees (1)	Log Total Wage Bill (2)	Log Median Wage (3)	Log Firm's Age Since 2005 (4)
a. Fuzzy RDD Estimate (τ_{FRD})				
Amount Collected (1000s, USD)	-0.005 (0.067)	0.015 (0.074)	-0.014 (0.010)	0.048* (0.030)
Robust p -value	0.965	0.721	0.253	0.075
Mean Baseline Outcome	4.31	11.14	6.79	4.63
b. Sharp RDD Estimate (τ_{SRD})				
Elig. 1st. App.	-0.015 (0.203)	0.047 (0.227)	-0.043 (0.030)	0.146* (0.090)
Robust p -value	0.965	0.722	0.243	0.072
Mean Baseline Outcome	4.31	11.14	6.79	4.63
c. First Stage (τ_{SRD})				
Elig. 1st. App.	3.043*** (0.356)	3.044*** (0.342)	3.076*** (0.195)	3.043*** (0.356)
Robust p -value	0.000	0.000	0.000	0.000
Mean Baseline Outcome	6.57	6.61	6.27	6.58
Effect Size (%)	46.35%	46.04%	49.03%	46.27%
Selection of Bandwidth:				
Opt. Bandwidth	[0.019]	[0.020]	[0.049]	[0.019]
Effective Obs.	3,775	4,021	10,511	3,778

Effects on Employment by Industry, Women

[Back](#)

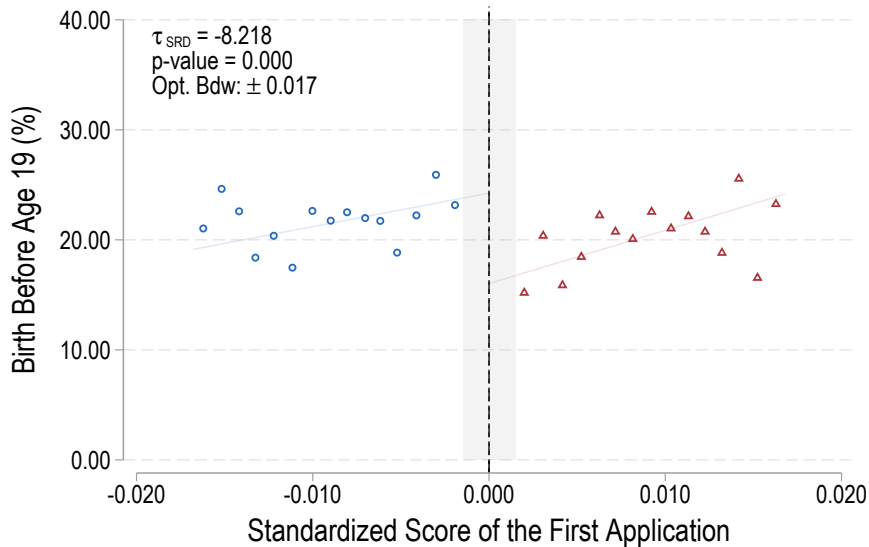
Effects on Employment by Industry, Men [Back](#)



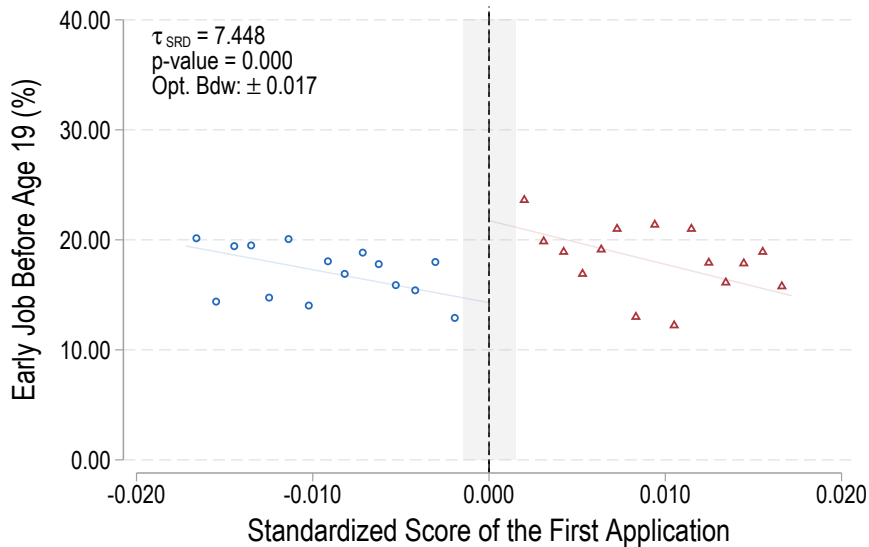
Other Robustness Tests (in the paper) [Back](#)

- Inclusion of additional covariates and fixed effects
- Winsorizing decisions
- Alternative definitions of participation in *PANES/AFAM-PE*

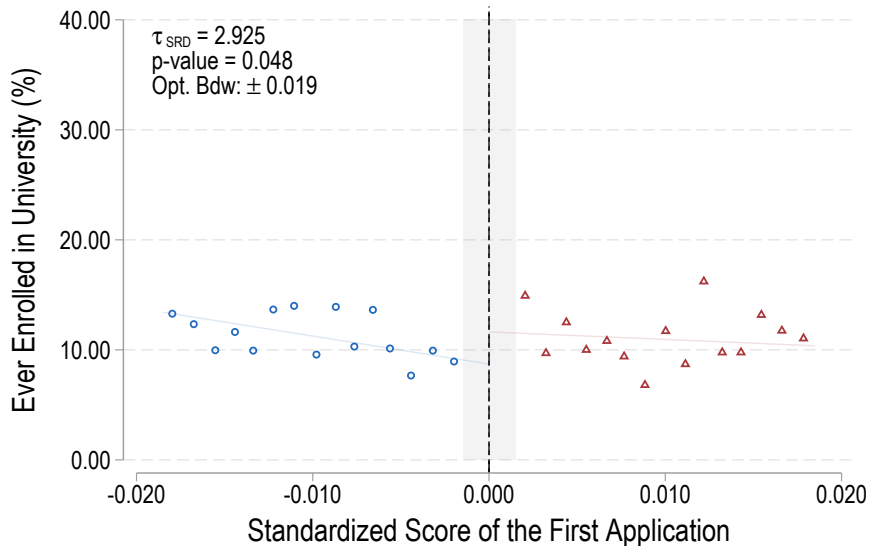
Effects on Birth Before 19

[Back](#)

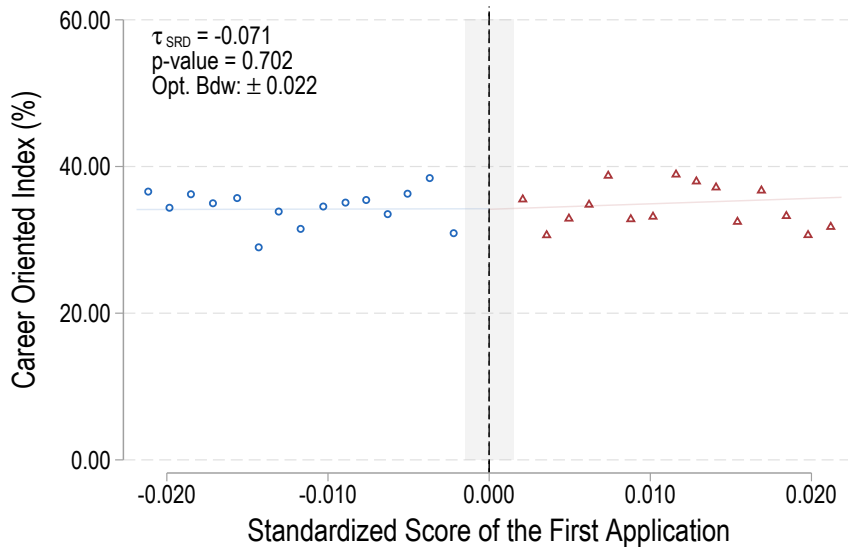
Effects on Job Before 19

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Effects on College Enrollment

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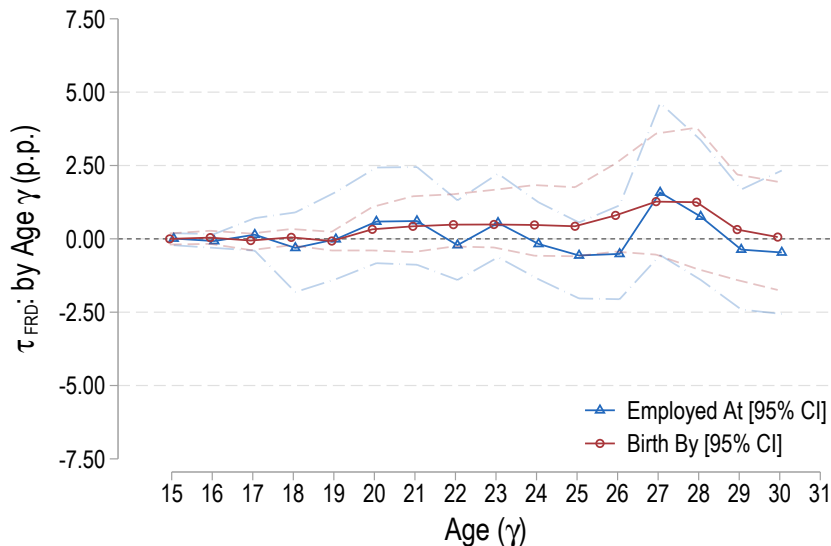
Effects on Men's Transition to Adulthood [Back](#)



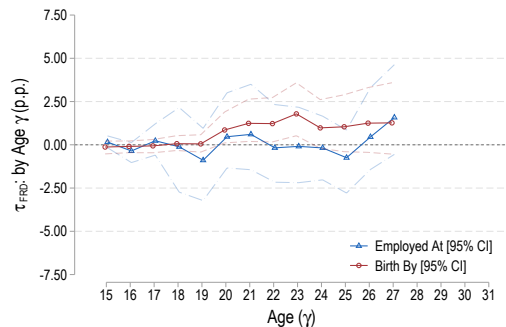
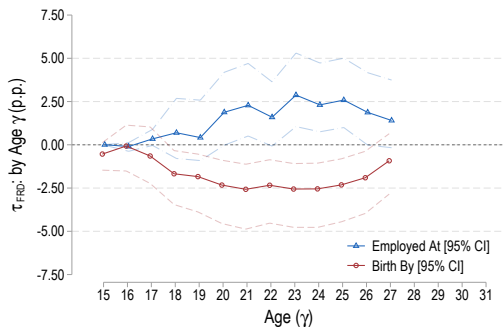
Age by Age Dynamics - Table [Back](#)

Age	Dep. Var: Employed At Age					Dep. Var: Birth by Age				
	Estimate (1)	Std. Error (2)	Eff. Size (%) (3)	Opt. Bdw. (4)	Effective Observations (5)	Estimate (6)	Std. Error (7)	Eff. Size (%) (8)	Opt. Bdw. (9)	Effective Observations (10)
15	0.041	(0.042)	216.04	0.026	10,555	-0.432*	(0.284)	-14.63	0.019	7,784
16	0.195*	(0.126)	42.92	0.019	7,900	-1.047**	(0.494)	-13.01	0.018	7,649
17	0.675***	(0.206)	56.25	0.016	7,305	-1.333***	(0.567)	-9.25	0.019	8,784
18	1.618***	(0.638)	12.92	0.019	9,158	-2.510***	(0.795)	-11.60	0.017	8,147
19	1.472**	(0.804)	6.29	0.020	9,529	-1.811**	(0.859)	-6.20	0.017	8,139
20	2.052***	(0.892)	7.09	0.019	8,650	-2.044***	(0.811)	-5.58	0.022	9,982
21	2.768***	(1.002)	8.00	0.020	8,250	-1.908***	(0.786)	-4.40	0.027	11,571
22	2.657***	(1.026)	7.15	0.020	7,817	-1.533**	(0.703)	-3.14	0.032	12,950
23	2.276***	(0.763)	5.60	0.033	12,160	-1.819***	(0.761)	-3.40	0.032	11,773
24	2.893***	(1.085)	6.74	0.024	7,750	-2.605***	(1.030)	-4.48	0.024	7,829
25	2.272**	(1.084)	5.12	0.026	7,557	-2.272***	(0.979)	-3.63	0.026	7,704
26	2.145**	(1.092)	4.62	0.027	7,001	-1.496*	(0.851)	-2.28	0.032	8,278
27	1.407*	(0.998)	2.93	0.032	7,011	-0.923	(0.890)	-1.35	0.032	7,085
28	1.204	(1.003)	2.51	0.041	7,433	-0.795	(0.892)	-1.13	0.039	7,361
29	0.433	(0.739)	0.86	0.106	15,101	0.020	(0.715)	0.03	0.069	11,172
30	-0.054	(1.323)	-0.11	0.040	4,711	0.560	(1.187)	0.75	0.036	4,351

Dynamic Effects on Fertility and Employment - Men

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Balanced Sample Dynamics

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Effects on Mobility/Stability - Men [Back](#)

	Mobility History					Stability in 2023m7		
	Number of Firms (1)	Stayed Same Firm (2)	Low Mobility (3)	Moderate Mobility (4)	High Mobility (5)	Tenure in current job (6)	Log. Tenure in current job (7)	Tenure +2 Year in current job (8)
a. Fuzzy RDD Estimate (τ_{FRD})								
Amount Collected (1000s, USD)	0.024 (0.027)	-0.841 (0.695)	0.309 (0.760)	-0.520 (0.797)	0.247 (0.854)	-0.965 (0.761)	-0.024 (0.016)	-0.752 (1.050)
Robust <i>p</i> -value	0.202	0.234	0.619	0.503	0.807	0.304	0.206	0.562
Mean Baseline Outcome	3.82	12.27	26.67	25.50	48.01	43.84	3.32	48.55
Effect Size (%)	0.64%	-6.85%	1.16%	-2.04%	0.51%	-2.20%		-1.55%
b. Sharp RDD Estimate (τ_{SRD})								
Elig. 1st. App.	0.077 (0.085)	-2.555 (2.086)	0.914 (2.246)	-1.564 (2.387)	0.747 (2.585)	-2.896 (2.269)	-0.073 (0.047)	-2.303 (3.202)
Robust <i>p</i> -value	0.196	0.231	0.621	0.503	0.807	0.291	0.194	0.565
Mean Baseline Outcome	3.82	12.27	26.67	25.50	48.01	43.84	3.32	48.55
Effect Size (%)	2.02%	-20.82%	3.43%	-6.13%	1.56%	-6.61%		-4.74%
Selection of Bandwidth:								
Opt. Bandwidth	[0.039]	[0.015]	[0.019]	[0.017]	[0.017]	[0.032]	[0.044]	[0.025]
Effective Obs.	20,760	5,867	7,736	6,999	6,825	5,577	8,059	5,030

Other Outcomes: Transitions to Adulthood [Back](#)

	Women				Men			
	Ever Had a Child (1)	Age of 1st. Birth (2)	Ever Employed (3)	Age of 1st. Job (4)	Ever Had a Child (5)	Age of 1st. Birth (6)	Ever Employed (7)	Age of 1st. Job (8)
a. Fuzzy RDD Estimate (τ_{FRD})								
Amount Collected (1000s, USD)	-1.039 (0.646)	0.160*** (0.049)	-0.372 (0.678)	-0.263*** (0.054)	-0.149 (0.527)	-0.254*** (0.089)	0.169 (0.562)	-0.018 (0.051)
Robust p -value	0.135	0.001	0.667	0.000	0.822	0.008	0.726	0.780
Mean Baseline Outcome	55.14	20.00	71.80	20.74	23.70	22.88	78.00	19.61
Effect Size (%)	-1.88%	0.80%	-0.52%	-1.27%	-0.63%	-1.11%	0.22%	-0.09%
b. Sharp RDD Estimate (τ_{SRD})								
Elig. 1st. App.	-3.322 (2.030)	0.502*** (0.149)	-1.217 (2.219)	-0.847*** (0.159)	-0.480 (1.697)	-0.755*** (0.255)	0.546 (1.818)	-0.053 (0.152)
Robust p -value	0.129	0.001	0.666	0.000	0.821	0.006	0.722	0.780
Mean Baseline Outcome	55.14	20.00	71.80	20.74	23.70	22.88	78.00	19.61
Effect Size (%)	-6.02%	2.51%	-1.69%	-4.08%	-2.02%	-3.30%	0.70%	-0.27%
Selection of Bandwidth:								
Opt. Bandwidth	[0.019]	[0.031]	[0.017]	[0.019]	[0.021]	[0.022]	[0.019]	[0.018]
Effective Obs.	9,401	8,593	8,210	6,278	11,099	2,780	9,864	6,938

Stacked DiD: Child Penalty by Age of First Birth [Back](#)

- Non-mothers are strongly selected → now focus on mothers' earnings dynamics around childbirth.
- Mothers who give birth at different ages may face different child penalties
 - Essentially, a DiD with staggered adoption → biased TWFE estimates?
- Potential solution → Stacked DiD Approach (Wing et al., 2024).
- Mothers vs not-yet-mothers who will give birth within three years (Melentyeva and Riedel, 2023)
- Key intuition: mothers and not-yet-mothers are on similar labor market paths but do not differ critically in the timing of motherhood

Empirical Strategy — Stacked Difference-in-Differences [Back](#)

Main Specification:

$$Y_{isa} = \sum_{\substack{l=-5 \\ l \neq -2}}^3 \beta_{sl} (B_{is} \times \mathbb{1}[a - s = l]) + \gamma_{is} + \lambda_{sa} + \kappa_t + \varepsilon_{isa}$$

- Y_{isa} is the outcome for woman i in stack s , observed at age a
- s denotes the focal age at first birth defining each stack
- B_{is} equals one for women who give birth at age s
- Control women are not-yet mothers who give birth at ages $s + 1$ to $s + 3$
- $\mathbb{1}[a - s = l]$ is an event-time indicator relative to the focal age s
- β_{sl} traces child penalties by age at first birth s , relative to $l = -2$
- γ_{is} are individual-by-stack FE; λ_{sa} are age-by-stack FE
- κ_t denotes calendar-year FE

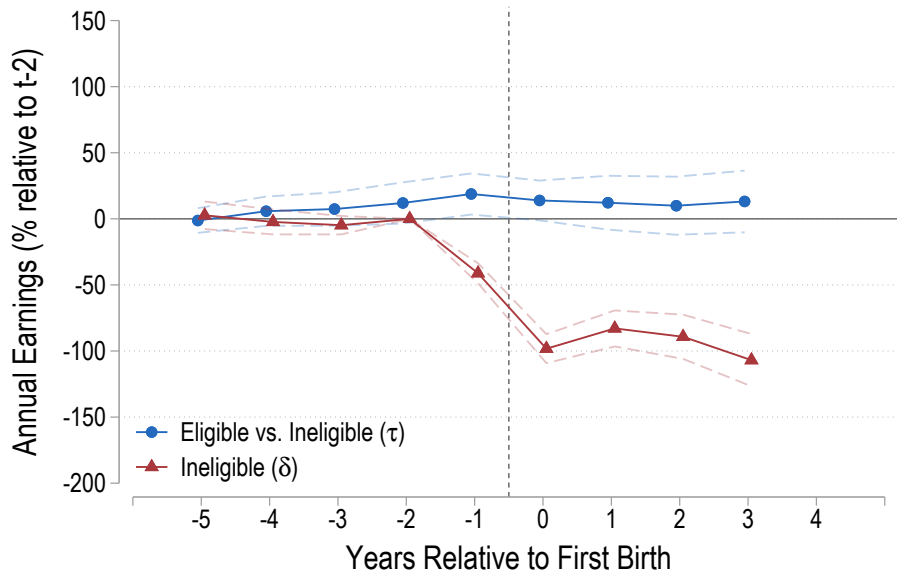
Empirical Strategy — Stacked DiD-RDD [Back](#)

Main Specification:

$$\begin{aligned} Y_{isa} = & \sum_{\substack{l=-5 \\ l \neq -2}}^3 \alpha_l \left(D_i^{1st} \times \mathbb{1}[a - s = l] \right) + \sum_{\substack{l=-5 \\ l \neq -2}}^3 \gamma_l \left(B_{is} \times \mathbb{1}[a - s = l] \right) \\ & + \sum_{\substack{l=-5 \\ l \neq -2}}^3 \beta_l \left(B_{is} \times D_i^{1st} \times \mathbb{1}[a - s = l] \right) + \sum_{\substack{l=-5 \\ l \neq -2}}^3 f_l(Z_i^{1st}, D_i^{1st}, B_{is}) \mathbb{1}[a - s = l] \\ & + \gamma_{is} + \lambda_{sa} + \kappa_t + \varepsilon_{isa} \end{aligned}$$

- D_i^{1st} is eligibility in the first application; Z_i^{1st} is the centered poverty score
- B_{is} equals one for women who give birth at age s
- $\mathbb{1}[a - s = l]$ is event time relative to the focal birth age s
- α_l captures eligibility effects for not-yet-mothers
- γ_l captures child penalties for ineligible mothers
- β_l captures how child penalties differ for eligible mothers
- $f_l(\cdot)$ is a local-linear function of the score, interacted with eligibility and motherhood status by event time
- γ_{is} are individual-by-stack FE; λ_{sa} are age-by-stack FE; κ_t are calendar-year FE

Unstacked Earnings Around Birth

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Secondary Education Outcomes [Back](#)

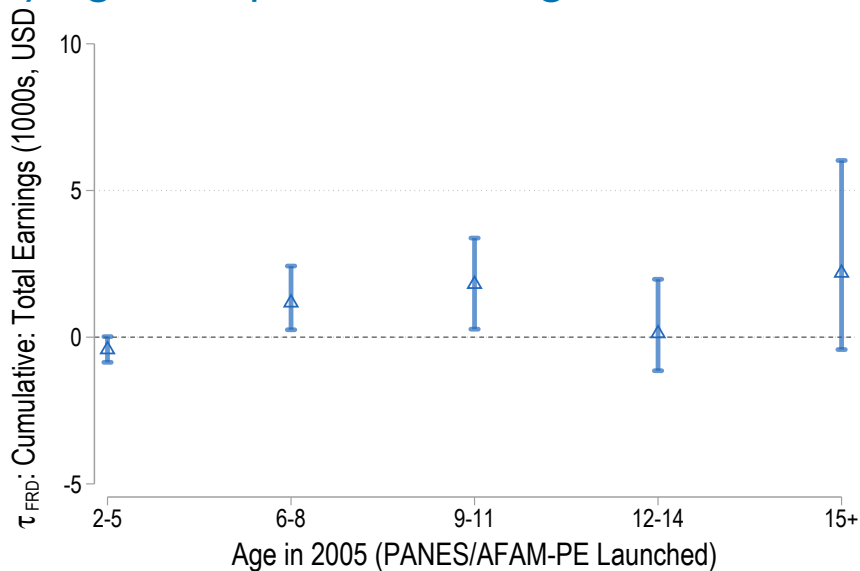
	Women				Men			
	Ever Enrolled (1)	Years Enrolled (2)	Enrolled in 12th grade (3)	Max. Grade Enrolled (4)	Ever Enrolled (5)	Years Enrolled (6)	Enrolled in 12th grade (7)	Max. Grade Enrolled (8)
a. Fuzzy RDD Estimate (τ_{FRD})								
Amount Collected (1000s, USD)	-0.053 (0.563)	0.006 (0.048)	2.041*** (0.786)	0.070** (0.030)	0.294 (0.683)	0.045 (0.037)	0.065 (0.483)	0.047* (0.026)
Robust p -value	0.843	0.998	0.008	0.025	0.844	0.334	0.838	0.083
Mean Baseline Outcome	80.02	3.99	28.99	10.18	64.31	2.62	11.49	9.34
Effect Size (%)	-0.07%	0.15%	7.04%		0.46%	1.72%	0.56%	
b. Sharp RDD Estimate (τ_{SRD})								
Elig. 1st. App.	-0.169 (1.802)	0.019 (0.157)	6.686*** (2.494)	0.237** (0.096)	0.952 (2.216)	0.145 (0.119)	0.210 (1.560)	0.151* (0.082)
Robust p -value	0.843	0.998	0.007	0.021	0.840	0.329	0.839	0.078
Mean Baseline Outcome	80.02	3.99	28.99	10.18	64.31	2.62	11.49	9.34
Effect Size (%)	-0.21%	0.49%	23.07%		1.48%	5.53%	1.82%	
Selection of Bandwidth:								
Opt. Bandwidth	[0.019]	[0.017]	[0.016]	[0.017]	[0.018]	[0.021]	[0.019]	[0.025]
Effective Obs.	9,227	8,014	7,678	6,700	9,307	10,830	9,632	8,441

Effects by Age of Exposure

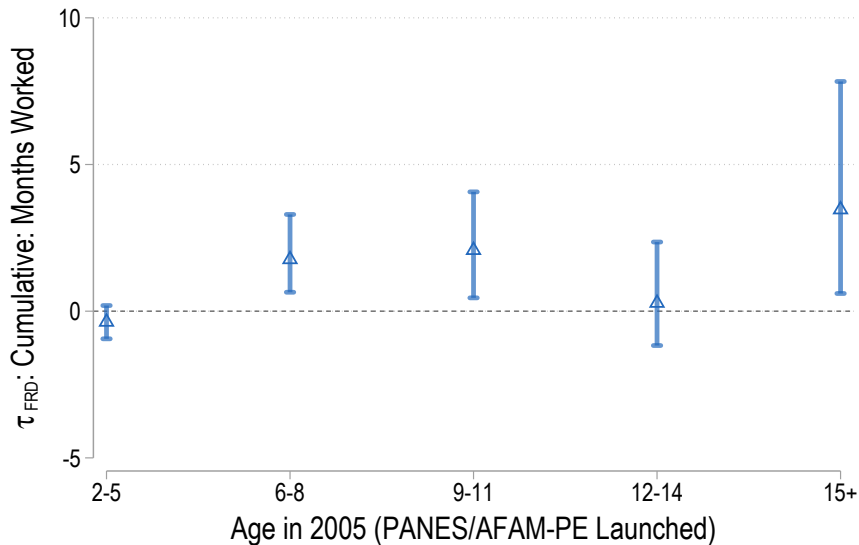
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- [Earnings](#)
- [Months Worked](#)
- [Age of First Birth and Age of First Job](#)
- [College Enrollment](#)

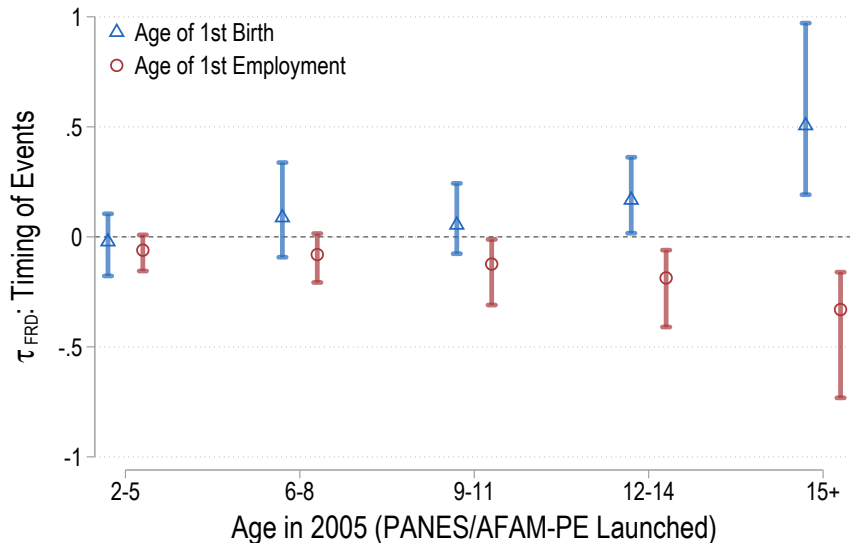
Effects by Age of Exposure: Earnings

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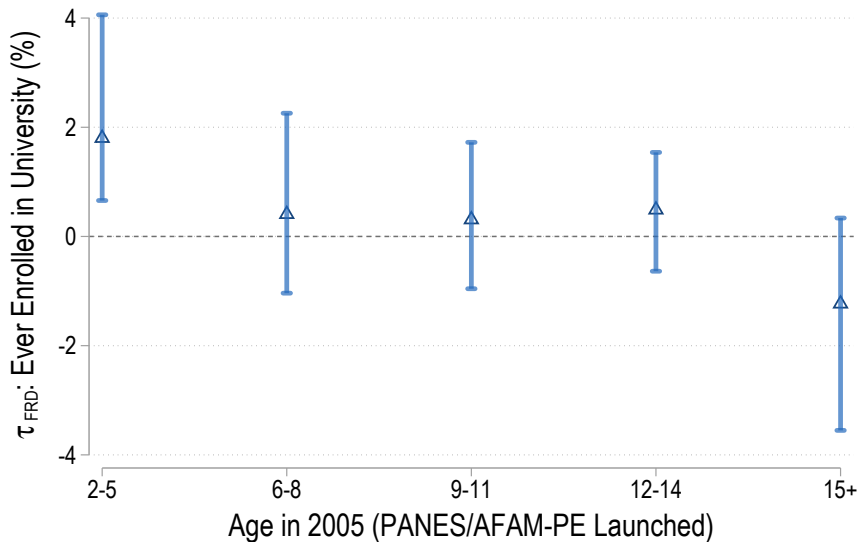
Effects by Age of Exposure: Months Worked

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Effects by Age of Exposure: Age of First Birth/Job

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Effects by Age of Exposure: College Enrollment

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Mediation-Style Analysis [Back](#)

	Dep. Var.: Cumulative: Total Earnings (1000s, USD)							
	All Women				Women Who Gave Birth			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
a. Fuzzy RDD Estimate (τ_{FRD})								
Amount Collected (1000s, USD)	1.740*** (0.551)	1.349*** (0.498)	1.528*** (0.518)	1.309*** (0.486)	1.176** (0.511)	0.692 (0.456)	0.957** (0.457)	0.645 (0.429)
Robust p -value	0.002	0.009	0.004	0.009	0.022	0.115	0.030	0.108
Mean Baseline Outcome	24.74	24.80	24.70	24.73	25.07	25.11	25.11	25.13
Effect Size (%)	7.03%	5.44%	6.19%	5.30%	4.69%	2.76%	3.81%	2.57%
b. Sharp RDD Estimate (τ_{SRD})								
Elig. 1st. App.	5.738*** (1.753)	4.526*** (1.641)	5.068*** (1.677)	4.416*** (1.614)	3.702** (1.589)	2.166 (1.420)	2.977** (1.412)	2.010* (1.334)
Robust p -value	0.002	0.007	0.003	0.007	0.017	0.103	0.025	0.098
Mean Baseline Outcome	24.74	24.80	24.70	24.73	25.07	25.11	25.11	25.13
Effect Size (%)	23.19%	18.25%	20.52%	17.86%	14.77%	8.62%	11.85%	8.00%
Selection of Bandwidth:								
Opt. Bandwidth	[0.016]	[0.017]	[0.016]	[0.016]	[0.030]	[0.034]	[0.034]	[0.036]
Effective Obs.	7,506	8,053	7,488	7,843	8,410	9,473	9,517	10,004
Mediators:								
Early Birth	No	Yes	No	Yes	No	No	No	No
Age at 1st Birth	No	No	No	No	No	Yes	No	Yes
High Educ.	No	No	Yes	Yes	No	No	Yes	Yes

Welfare Dependence and Poverty Scores [Back](#)

	Women					Men				
	Ever Applied (1)	Age 1st. Application (2)	Ever Accepted (3)	Number of Payments (4)	Poverty Score (5)	Ever Applied (6)	Age 1st. Application (7)	Ever Accepted (8)	Number of Payments (9)	Poverty Score (10)
a. Fuzzy RDD Estimate (τ_{FRD})										
Amount Collected (1000s, USD)	-0.713 (0.765)	0.137* (0.064)	-0.818 (0.740)	-1.268* (0.571)	-0.011*** (0.004)	0.222 (0.503)	-0.073 (0.081)	0.066 (0.478)	0.130 (0.343)	-0.002 (0.004)
Robust p -value	0.458	0.074	0.352	0.057	0.006	0.422	0.381	0.532	0.518	0.664
Mean Baseline Outcome	35.58	21.82	32.78	22.03	0.23	17.50	23.35	16.22	9.36	0.29
Effect Size (%)	-2.00%	0.63%	-2.49%	-5.76%	-4.80%	1.27%	-0.31%	0.41%	1.39%	-0.73%
b. Sharp RDD Estimate (τ_{SRD})										
Elig. 1st. App.	-2.334 (2.498)	0.422* (0.193)	-2.677 (2.414)	-4.153* (1.838)	-0.034*** (0.011)	0.724 (1.640)	-0.233 (0.259)	0.214 (1.550)	0.421 (1.113)	-0.007 (0.013)
Robust p -value	0.459	0.060	0.352	0.054	0.003	0.420	0.371	0.531	0.515	0.647
Mean Baseline Outcome	35.58	21.82	32.78	22.03	0.23	17.50	23.35	16.22	9.36	0.29
Effect Size (%)	-6.56%	1.94%	-8.17%	-18.85%	-14.94%	4.14%	-1.00%	1.32%	4.50%	-2.35%
Selection of Bandwidth:										
Opt. Bandwidth	[0.015]	[0.036]	[0.015]	[0.016]	[0.034]	[0.017]	[0.037]	[0.018]	[0.018]	[0.037]
Effective Obs.	7,439	6,366	7,437	7,497	6,018	9,014	3,394	9,305	9,219	3,364

Discussion

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Discussion: Conceptual Framework

Model: Overview

- Stylized framework to organize fertility, career investment, and earnings
- Builds on career-fertility timing model in Doepke et al. (2023)
- Main extension: adds a new period (period 0) to capture childhood conditions
 - 0- Childhood/adolescence: schooling and early fertility risk
 - 1- Transition to adulthood: fertility timing and career investment
 - 2- Adulthood: longer-run labor market outcomes
- Key idea: Childhood income shapes
 - Schooling investment $\rightarrow$ $\uparrow$ entry wages and returns to career investment
 - Teenage fertility risk $\rightarrow$ constrain women's choices and time allocation
- Income support policies operate as shocks to childhood income

Model: Intuition

- Career investment uses time today to raise future wages
 - e.g., education, training, job search, experimentation, demanding career paths
- Fertility choices involve a trade-off:
 - Delaying fertility increases scope for career investment but raises infertility risk
- What shapes decisions:
 - household taste for education: δ
 - children-associated costs: ϕ, ψ
 - returns to career investment: $\kappa(s_0), \gamma(s_0)$
 - value of children: v and infertility risk from delaying fertility: $1 - \pi$
 - childhood income: y
 - teenage fertility shock: n_0
 - schooling cost: p

Comparative Statics

- Higher childhood income increases schooling and lowers teenage fertility risk
- Fertility responses operate mainly on the timing margin:
 - early fertility declines
 - women shift from early to delayed fertility
 - desired fertility is not directly affected
- Career investment increases as schooling raises returns and delayed fertility relaxes time constraints
- Earnings effects at specific ages are ambiguous:
 - wage gains may be offset by career investment or child time costs
 - cumulative earnings are expected to rise over the life cycle

Model and Evidence

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- The empirical findings closely match the model's predictions
- Childhood income shapes initial conditions:
 - higher secondary education progression and maximum grade attainment
 - lower teenage fertility risk
- Fertility responses are mainly about timing:
 - delayed transition to motherhood
 - no clear reduction in the overall probability of becoming a mother
- Career investment changes during the transition to adulthood:
 - higher early job mobility
 - more stable jobs at later ages
- Earnings patterns are consistent with the model: age-specific effects can be muted, while cumulative earnings increase

Discussion: External Validity

Generalizability

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- Mechanisms operate under fairly general conditions:
 - Childhood income affects schooling and teenage fertility risk
 - Women can adjust fertility, child penalties exist, and career investment pays off
- Still, the size of the effects will be mediated by:
 - Size and shape of child penalties, gender norms, and labor market features, e.g. wages, returns to career investment, female labor force participation, informality
- Uruguay is not an outlier in these dimensions:
 - Middle-of-the-pack child penalties, egalitarian gender norms, and gender-integrated labor market by regional standards
- External validity is further strengthened by long-run administrative data, no attrition, and a permanent, large-scale policy in a real-world setting

Discussion: Comparison with Existing Literature

International Comparison: Labor Market Outcomes

- Consistent with income support improving children's adult outcomes:
 - **US:** e.g., Aizer et al. (2016), Bailey et al. (2024), Page (2024)
 - **Latin America:** e.g., Araujo and Macours (2021), Parker and Vogl (2023)
- Stronger responses for women are also in line with recent evidence
 - **US:** Bastian et al. (2022), Hoynes et al. (2016), Bitler and Figinski (2024)
 - **PROGRESA:** Araujo and Macours (2021), Parker and Vogl (2023)
- Magnitudes are large relative to other contexts
 - This paper: 7.0% increase in cumulative earnings per additional USD 1,000
 - **EITC: 2.2%** Bastian and Micheltore (2018)
 - **1% benchmark** Page (2024)
 - **Food Stamps: 3–4%** Hoynes et al. (2016); Bitler and Figinski (2024)

International Comparison: Fertility Timing

- Direction is consistent with evidence from other income support policies
 - EITC in the US: Micheltore and Lopoo (2021)
 - CCTs: Araujo and Macours (2021), Attanasio et al. (2021), Barham et al. (2018), Baird et al. (2011).
- Magnitude is broadly in line with PROGRESA
 - This paper: 0.5-year increase for two extra years of exposure
 - PROGRESA: 1.5 extra years increase age at 1st. birth by 0.53y Araujo and Macours, 2021
- Effects are larger than those documented for the US
 - This paper: 11.6% reduction per additional USD 1,000 before age 19
 - EITC: reduces birth by age 20 by 2-3% Micheltore and Lopoo, 2021
- Common pattern: effects operate mainly through fertility timing, not extensive margin preferences → U-shaped pattern also in US Micheltore and Lopoo, 2021.

International Comparison: Welfare Dependency

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- Consistent with some evidence showing limited intergenerational welfare transmission
 - SSI removal: Deshpande (2016)
- Contrasts with other evidence documenting stronger persistence:
 - Disability insurance and AFDC/TANF: Dahl et al. (2014), Dahl and Gielen (2021), Hartley et al. (2022)
- This paper finds null or slightly negative effects on:
 - future applications, participation, and welfare payments
- One possible explanation: conditionalities may promote human capital investment and weaken mechanisms underlying welfare dependence

Discussion: Marginal Value of Public Funds

Marginal Value of Public Funds

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Marginal Value of Public Funds

- I compute the MVPF for an additional USD 1 transferred to an average household near the cutoff
- Willingness to pay has two parts:
 - Adults value unrestricted cash at face value
 - Children value the discounted after-tax earnings gains
- Fiscal externalities (FE):
 - Baseline: FE arise from changes in formal labor earnings of adults and children
 - Sensitivity test:
 - Alternative scenarios for real vs formal/informal shifting responses
 - Tax-Base spillovers (i.e., consumption and VAT changes)

Static MVPF

$$\begin{aligned} - \text{WTP} = & \underbrace{1}_{\text{Adults' WTP}} + \underbrace{1.33 \times (1 - 32\%) \times 2.4 \times 49\%}_{\text{Children's WTP}} = 2.066 \\ & \text{time disc} \quad \text{Net-of-tax rate} \quad \text{\# kids} \quad \text{\% girls} \\ & \text{cum. effect} \quad \text{in HH} \end{aligned}$$

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- Sensitivity: vary share of earnings response that is real versus formalization
 - Conservative scenario: about 1.3
 - Optimistic scenario: about 4.2

Dynamic MVPF

- Relies on projected earnings up to retirement Hendren and Sprung-Keyser, 2020; Bailey et. al., 2024
 - HH survey data is used to recover a lifecycle earnings profile, applies the latest observed earnings effect, and a 0.5% wage growth rate.
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- Under a baseline no-decay scenario:
 - Additional payroll taxes offset the initial transfer cost around age 37
 - By retirement age, fiscal externalities reach about USD 2.4 per USD 1 transferred

Dynamic MVPF

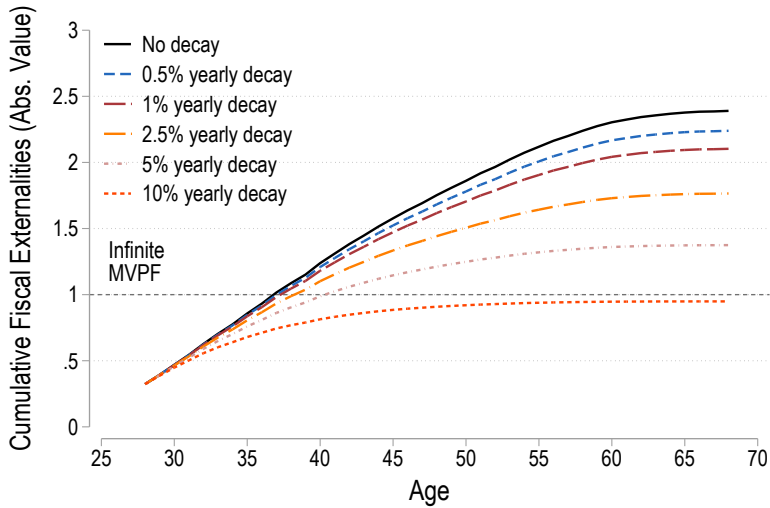
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- The result is robust to meaningful decay in the earnings gap
- Caveat: the analysis abstracts from pension-related fiscal effects.

Long-Run MVPF

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Period 0 Setup [Back](#)

- Decisions are made within the household
 - period 0 only shapes the conditions under which women enter adulthood
 - abstracts from a full intergenerational optimization problem
- Households allocate resources between childhood consumption c_0 and schooling investment s_0
- Schooling is modeled as a normal good, with monetary cost p
- Childhood/teenage fertility is modeled using a RF approach:

$$\Pr(n_0 = 1 \mid y) = r(y), \quad r'(y) < 0$$

- If a fertility shock occurs, the marginal cost of schooling increases by $(1 + \varphi)$

Childhood Income and Schooling Investment

- Optimal schooling investment is:

$$s_0^*(y, n_0) = \frac{\delta}{1 + \delta} \cdot \frac{y}{p(1 + \varphi n_0)}$$

- Schooling depends positively on childhood income y
- Schooling depends negatively on:
 - the cost of schooling p
 - the early fertility shock n_0
 - the cost increase associated with early fertility, φ
- Childhood income affects schooling through two channels:
 - relaxing resource constraints
 - reducing exposure to the high-cost schooling state

Career Investment and Fertility Timing

- During the transition to adulthood, women choose fertility timing and career investment as in Doepke et al. (2023)
- Career investment raises future wages, but uses time that is not fully remunerated contemporaneously
- Schooling affects entry wages and later returns to career investment:

$$w_1 = w_1(s_0), \quad w_2 = w_1(s_0)\kappa(s_0)e_1^{\gamma(s_0)}$$

- Two departures from Doepke et. al. (2023):
 - Dynamic complementarities: $\kappa'(s_0) > 0$ and $\gamma'(s_0) > 0$
 - Fertility choice is constrained by realization of childhood/teenage fertility shock:
 - If $n_0 = 1$, fertility timing is no longer a choice (i.e., $n_1 = 1$)

Decision Rules

- Optimal career investment:

$$e_1^*(s_0, n_1) = \frac{\gamma(s_0)}{1 + \gamma(s_0)} (1 - \phi n_1)$$

- Early fertility reduces available time; higher returns $\gamma(s_0)$ increase career investment
- Fertility choices are characterized by two thresholds:

$$v \geq \bar{v}_1 \equiv -\log(1 - \phi)$$

$$v \geq \bar{v}_2(s_0) \equiv \frac{(1 + \gamma(s_0)) - \pi}{1 - \pi} [-\log(1 - \phi)]$$

- Childhood income changes schooling, entry wages, returns to career investment, and fertility options

Static MVPF - Full Estimates

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		Formal/Informal Earnings Shifting		
	Baseline (1)	Conservative (2)	Moderate (3)	Optimistic (4)
a. Willingness to Pay (per USD 1 transferred)				
Adults	1.000	1.000	1.000	1.000
Children	1.066	0.000	0.533	1.066
Total WTP	2.066	1.000	1.533	2.066
b. Fiscal Externalities (per USD 1 transferred)				
Adults: payroll taxes	0.178	0.178	0.178	0.178
Adults: VAT	.	0.067	0.033	0.000
Children: payroll taxes	-0.502	-0.502	-0.502	-0.502
Children: VAT	.	.	-0.094	-0.188
Total Fiscal Externalities	-0.323	-0.257	-0.384	-0.511
c. Marginal Value of Public Funds				
MVPF	3.054	1.345	2.488	4.226