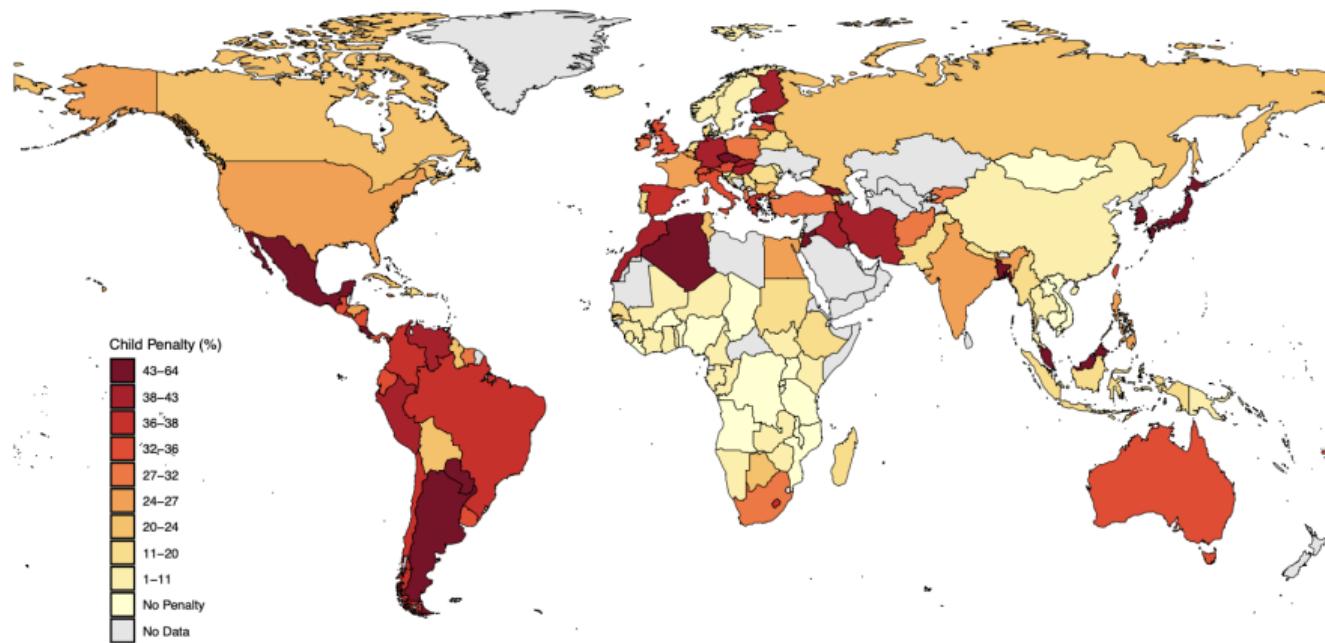


Does free childcare improve mothers' careers? Evidence from São Paulo

João Garcia Rafael Latham-Proença Marcela Mello

Applied Micro Breakfast



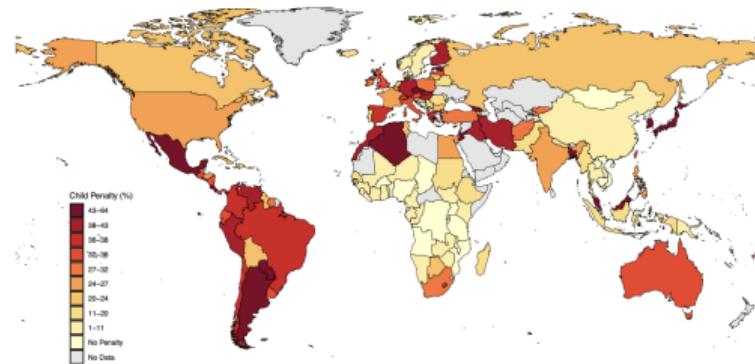
Child penalty across the world (Kleven, Landais & Leite-Mariante (2023))

Introduction

Literature on the child penalty has focused on a few developed countries

Latin America has largest child penalties in the world

Latin America stands out

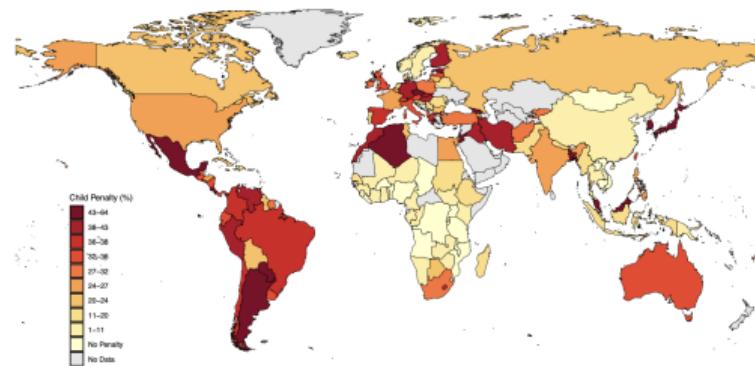


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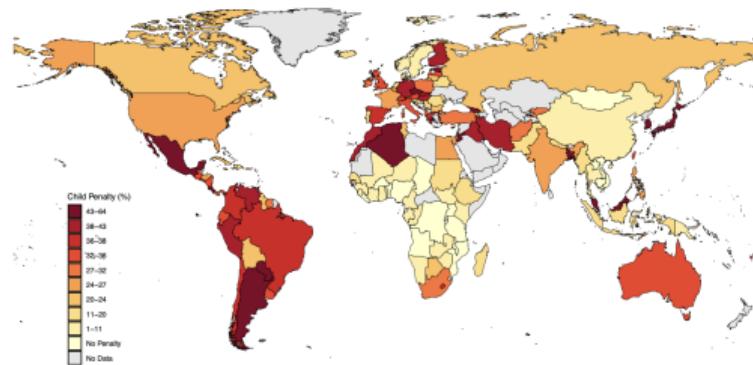


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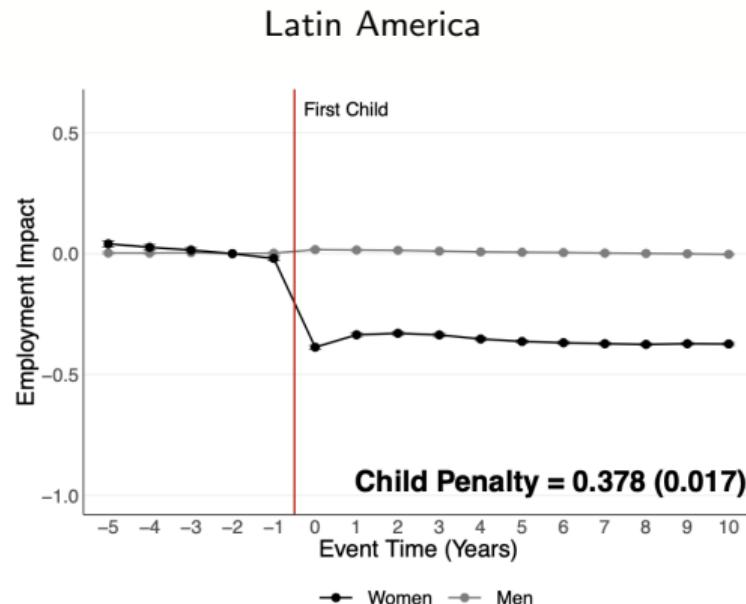


Introduction

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Latin America stands out



Introduction

What do we know about policies to reduce the child penalty?

Evaluations of subsidized childcare often find null effects

But very few studies in Latin America

Several reasons why results from Austria may not carry over to Colombia

- Economic structure
- Labor market institutions
- Cultural norms

This paper

We study a large expansion of free childcare in the city of São Paulo.

Large scale implementation

- Added on average 30,000 new seats per year over one decade
- Coverage went from 25% to 75%

Child penalty fairly typical of LatAm

School district rules help with identification

Good data on labor and family structure

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This paper

Question: How does free childcare availability affect the child penalty?

Method: We study the rollout of free childcare in São Paulo, comparing districts with large increases to districts with small, gradual increases.

Results: We find an increase of 0.1 seats per child in a district causes an increase of 0.6 p.p. in maternal employment in that district

Literature

- Female labor and the family

Bertrand, Goldin and Katz (2010), Kleven, Goldin and Katz (2016), Landais and Sogaard (2019)

- Effects of childcare access

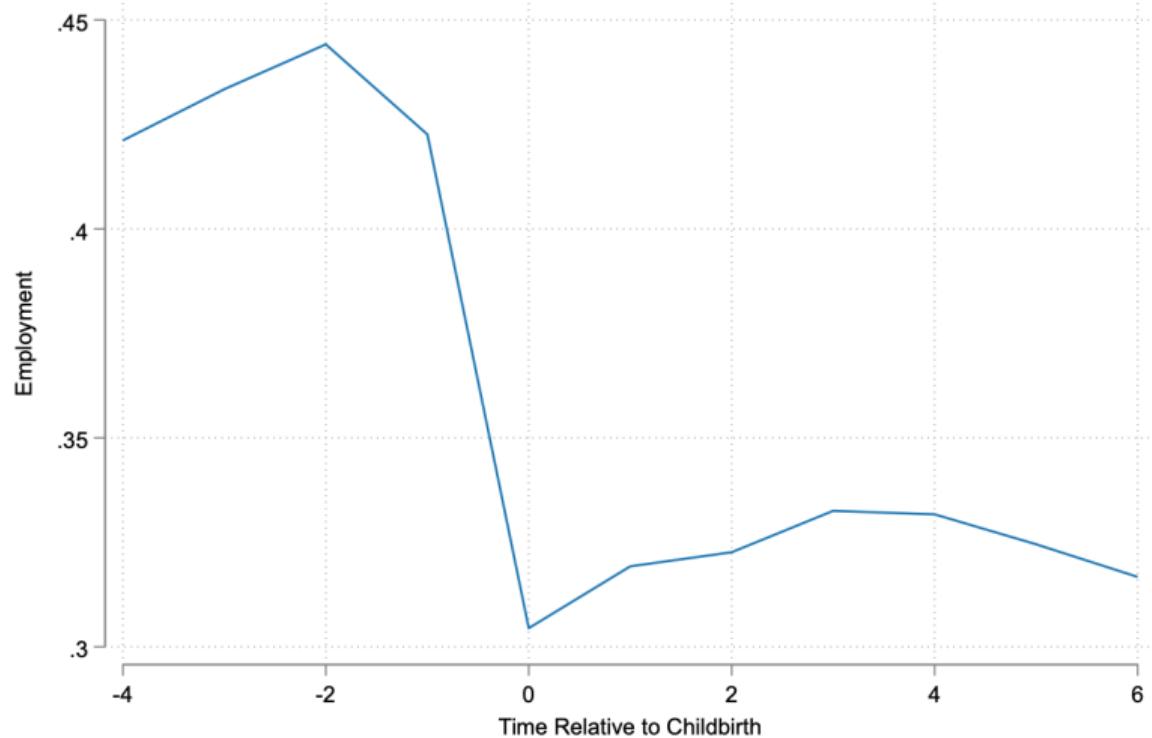
Kleven et al. (2021), Andresen and Havnes (2019), Carta and Rizzica (2018), Haeck, Lefevbre and Marrigan (2015), Havnes and Mogstad (2011), Goux and Maurin (2010), Cascio (2009), Gruber and Milligan (2008),

- Childcare in Latin America

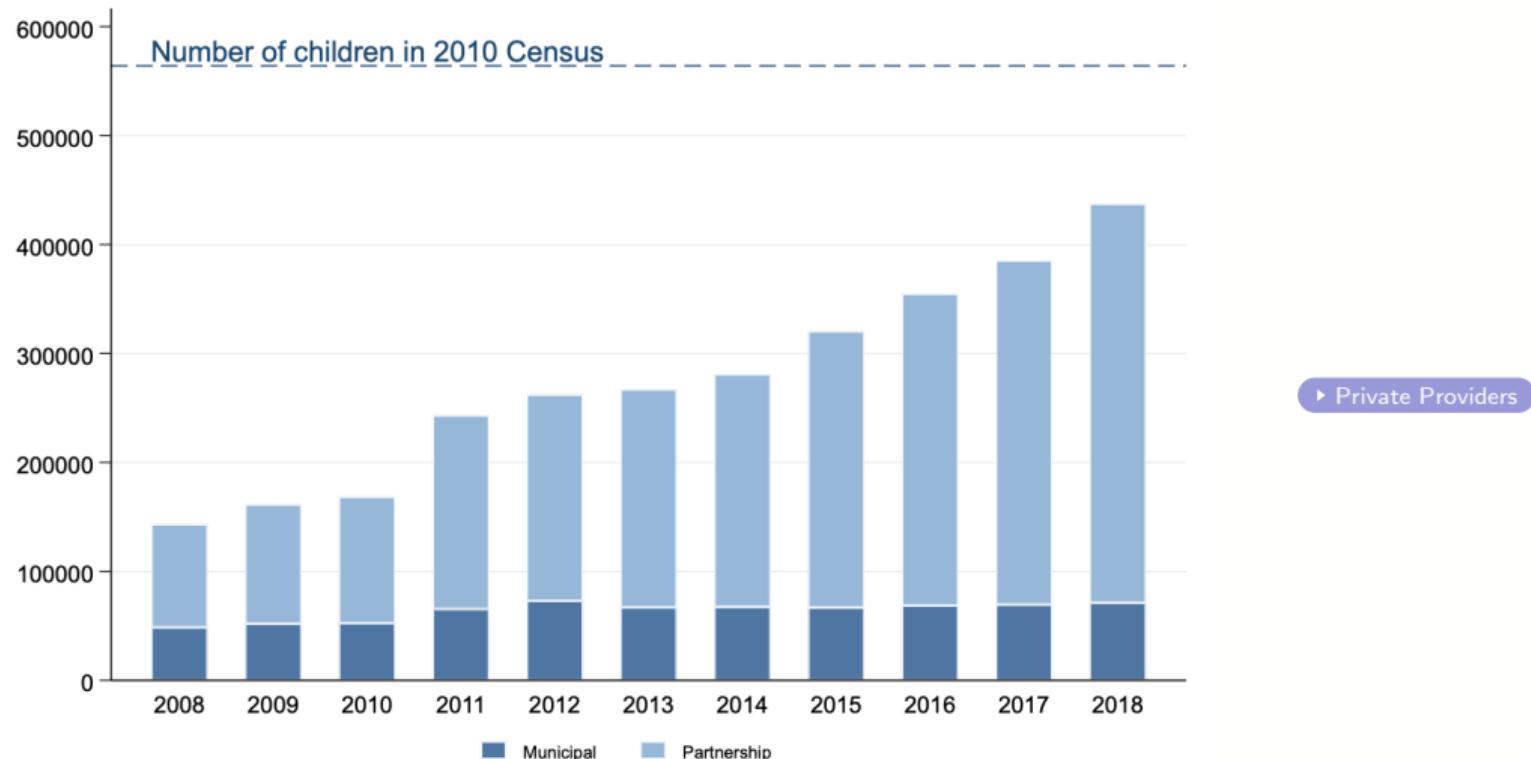
Attanasio et al. (2022), Paes de Barros (2011), Rosero and Oosterbeek (2011), Calderón (2011), Berlinski (2011)

Setting

Setting: The Child Penalty in São Paulo



Setting: Enrollment



► Private Providers

Setting: Public-private-partnership model

City government:

- Finds and provides suitable location
- Hires childcare provider
- Pays by student

Private provider:

- Hires caretakers
- Handles day-to-day operation
- Helps find locations

High standard of quality

Flexibility allowed for fast expansion



Childcare in Itaquera, São Paulo

Setting

Allocation:

Centralized online system to match child-facility

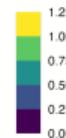
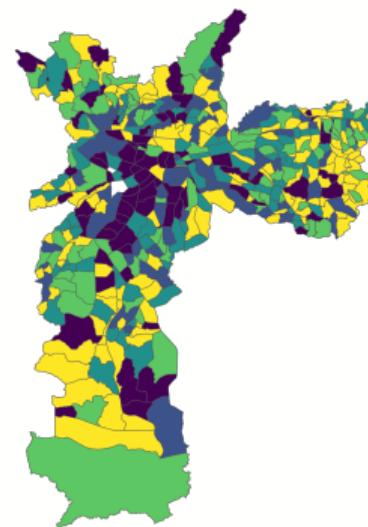
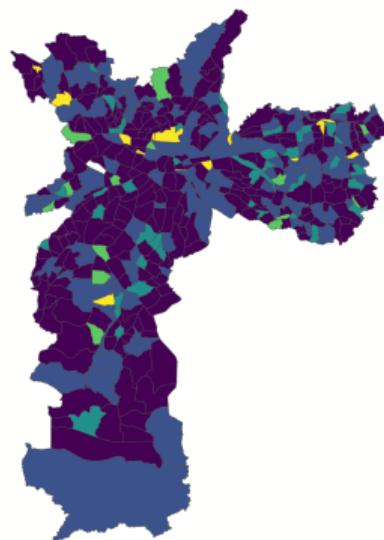
Parents request a slot in a childcare facility

Child-facility matching done in the same educational district, when available

First-come-first-served

Since 2013, priority to families living in extreme poverty

Seats per 0-3 year-old child in Census, 2008 and 2018



Data

Data Sources

Sample: Family rosters and addresses from the Single Registry - NOT representative

Outcomes: Labor data from RAIS, includes all formal employment links

Treatment: Data on childcare centers from the Municipal Government

Sample

Sample of

- Women
- Had their first child between 16 and 65 years old
- Living in the city of São Paulo
- In the Single Registry

Descriptive

Variable	Census	Single Registry
Share Compled HS	0.85	0.61
Share Born in Sao Paulo	0.66	0.53
Share White	0.62	0.40
Share Employed - Formal Sector	0.39	0.35
Share Employed - Informal Sector	0.28	?
Average Yearly Income - Formal Sector	24877.53	6326.25
Median Yearly Income - Formal Sector	14400.00	6168.76
N	88452	45875

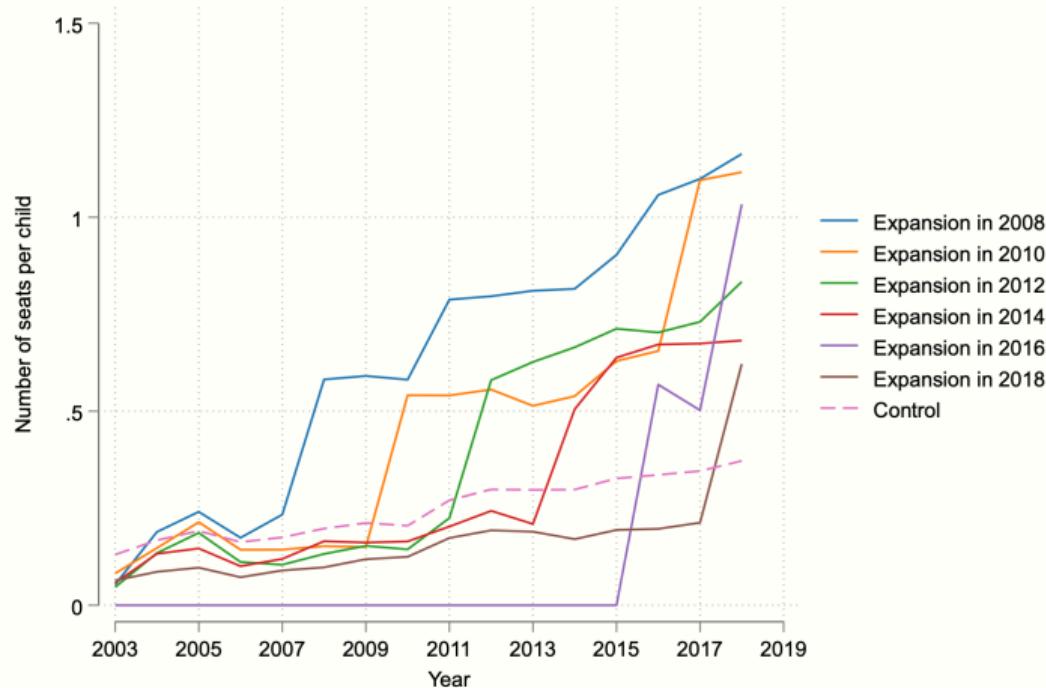
	Mothers		Fathers	
	Before	After	Before	After
Share formally employed	0.44 (0.11)	0.33 (0.09)	0.57 (0.17)	0.55 (0.16)
Total earnings (Yearly)	3,465 (1,162)	2,217 (852)	6,445 (2,897)	6,449 (2,850)
Earnings if employed (Yearly)	7,749 (1,567)	6,607 (1,656)	11,314 (3,714)	11,741 (3,973)
Work hours if employed (Weekly)	29.04 (3.44)	24.36 (3.63)	33.16 (7.15)	33.23 (5.84)
Wage if employed (Hourly)	4.95 (0.78)	5.07 (1.44)	6.35 (1.70)	6.65 (2.37)
N	306,841	401,033	64,088	78,599

Empirical Strategy

Empirical Strategy

- Expansion of childcare happened at different times in each district
- We compare places with rapid expansion to those with no significant expansion
- Calculate the largest annual increase in availability for each district over the period, $gmax_d$
- A district is considered **treated** if:
 - The first childcare facility opened during this period
 - $gmax_d$ is in the top 40% of distribution
- A district is in the **control** if $gmax_d$ is in the bottom 40%
- Districts with $gmax_d$ in the middle 20% are dropped from the comparison

Expansion of Childcare

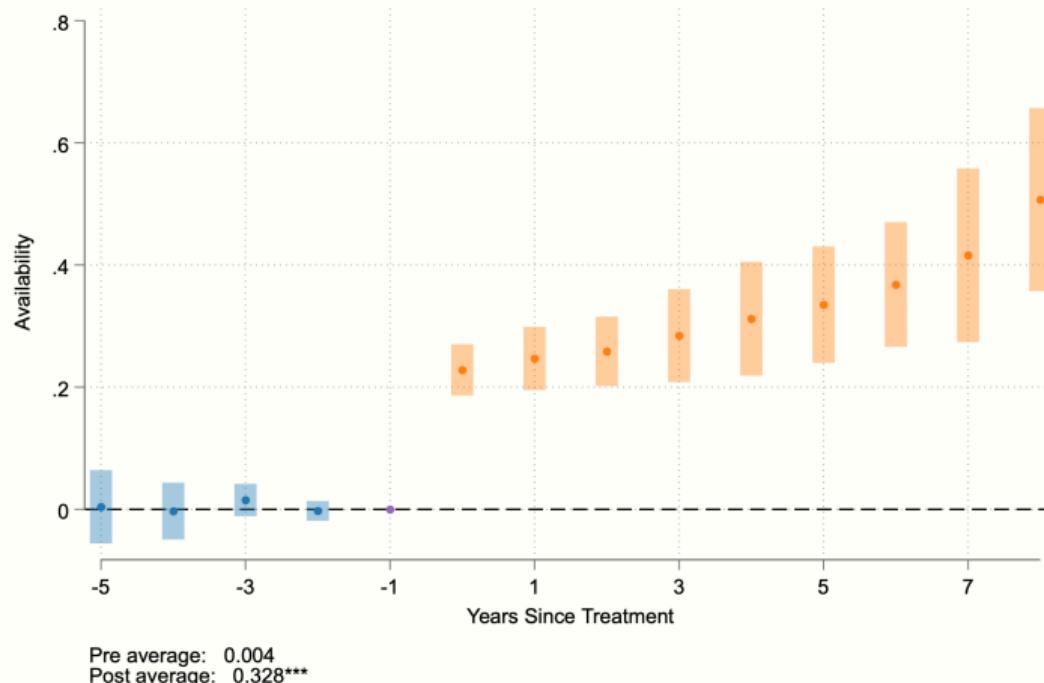


Absolute seats

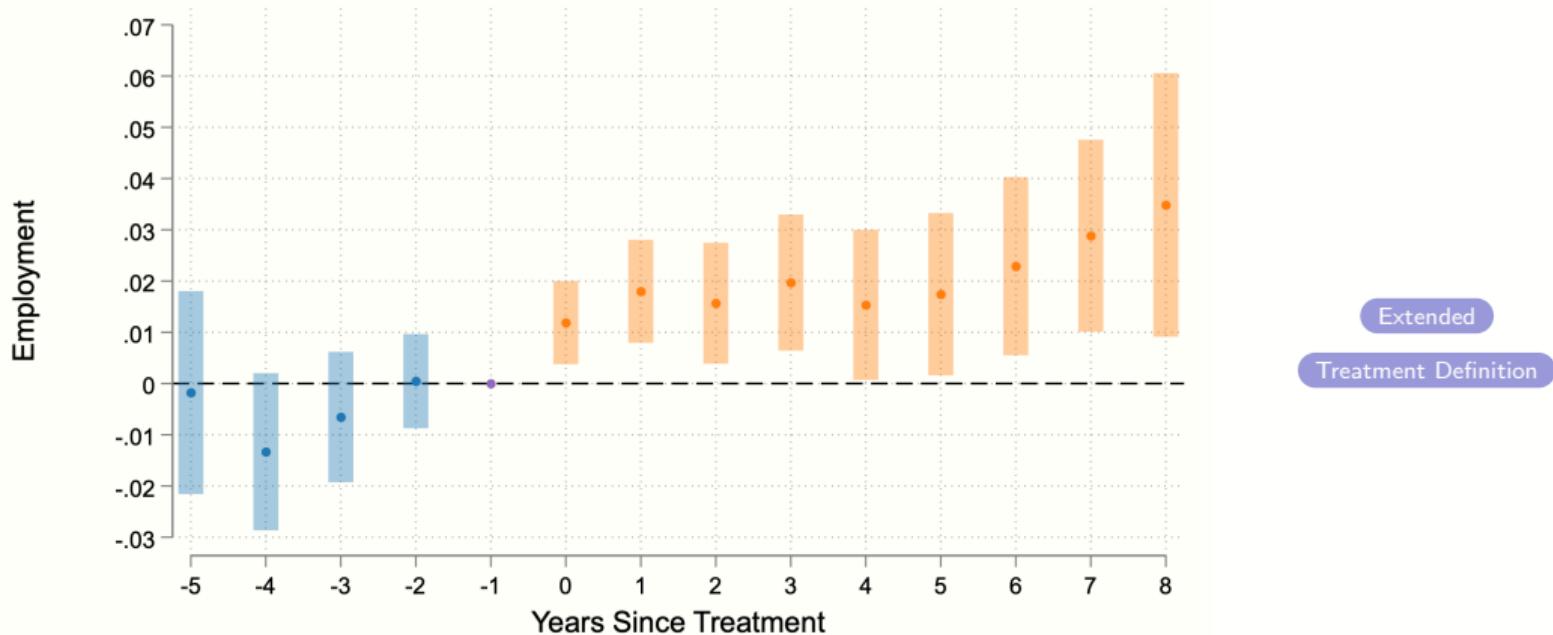
- Main outcome: Employment and earnings of mothers 0 to 3 years since childbirth
- Estimation with Callaway and Sant'Anna (2021)
- First stage: effect of one expansion on availability (seats per child)
- Estimates of effect of the expansion can be rescaled to get the effect of availability

Main Results

First Stage



Mothers: Employment



Pre average: -0.005

Post average: 0.021***

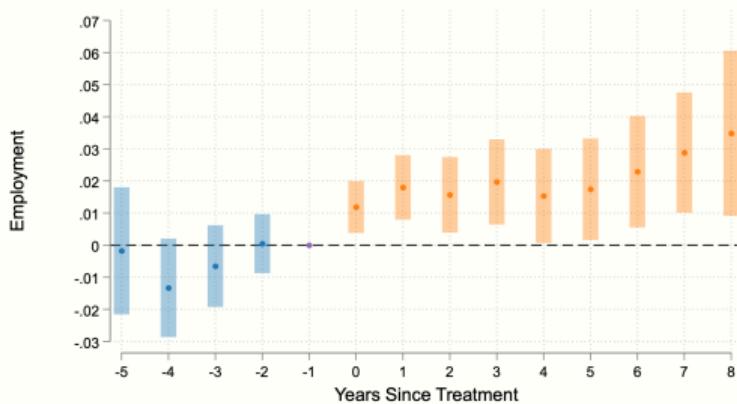
Pretrends p-value: 0.243

Pre = Post p-value: 0.009

Main Results

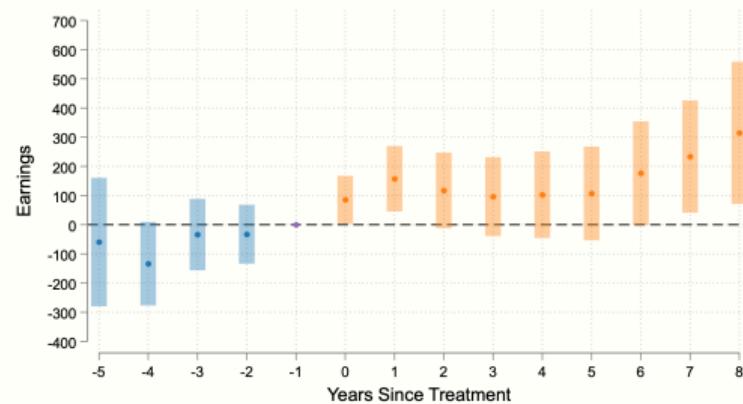
Mothers

Mothers: Employment



Pre average: -0.005
Post average: 0.021***
Pretrends p-value: 0.243
Pre = Post p-value: 0.009

Mothers: Earnings



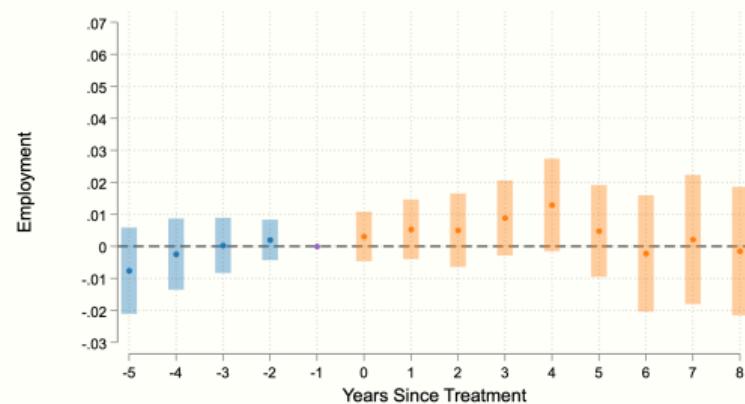
Pre average: -64.8
Post average: 154.7**
Pretrends p-value: 0.212
Pre = Post p-value: 0.031

Extended

Main Results

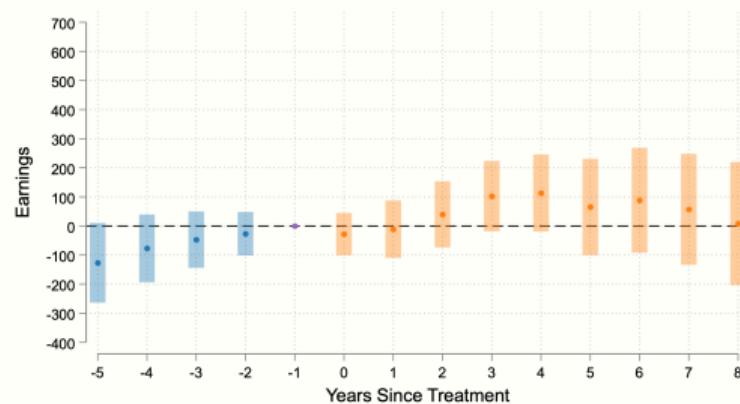
Placebo: Mothers-to-be

Mothers-to-be: Employment



Pre average: -0.002
Post average: 0.004
Pretrends p-value: 0.625
Pre = Post p-value: 0.441

Mothers-to-be: Earnings

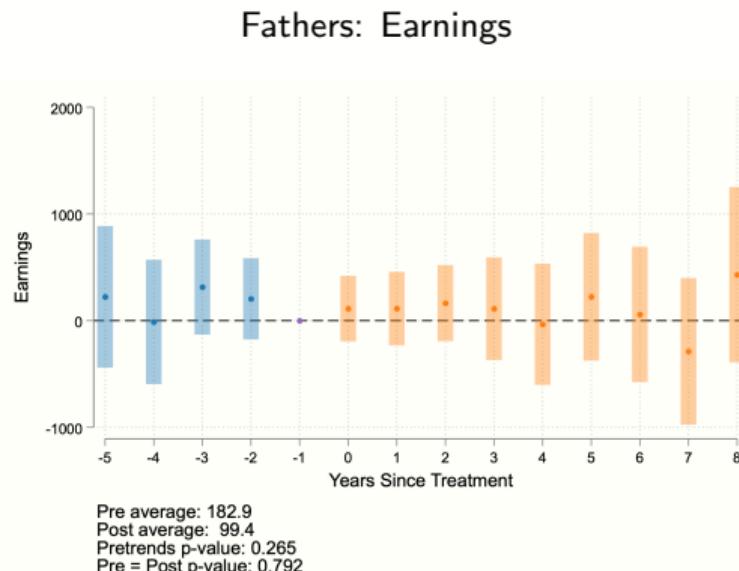
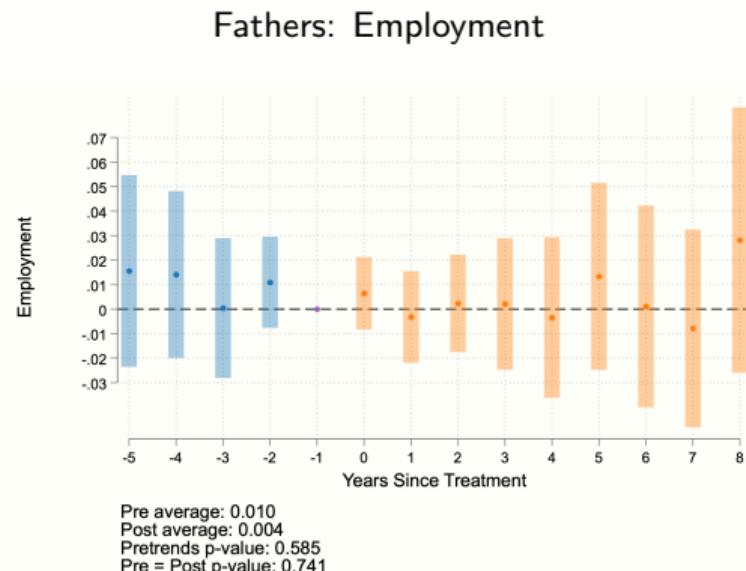


Pre average: -69.3
Post average: 48.5
Pretrends p-value: 0.478
Pre = Post p-value: 0.150

Extended

Main Results

Fathers



Extended

Main Results

Table: Effects of Childcare Expansion

	Employment		Earnings	
	Pre	Post	Pre	Post
Mothers	−0.005 (0.006)	0.021*** (0.007)	−64.8 (63.1)	154.7** (65.9)
Mothers-to-be	−0.002 (0.004)	0.004 (0.006)	−69.3 (47.3)	48.5 (59.5)
Fathers	0.010 (0.012)	0.004 (0.014)	182.9 (219.0)	99.4 (221.5)

Notes: This table shows the average estimated effects for the Pre- and Post-expansion periods, for mothers, mothers-to-be and fathers. The mother and father samples include parents from 0 to 5 years after childbirth. The mothers-to-be sample includes 4 to 1 year before childbirth. Earnings in 2010 BRL. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Alternative Strategy

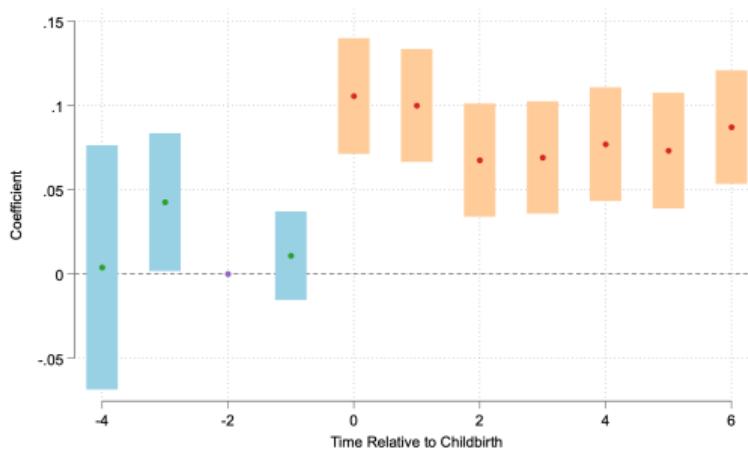
Some potential issues with the main strategy:

- Does not use the full variation in the data
- Definition of an expansion somewhat arbitrary
- Mothers and mothers-to-be may be subject to common trends

Alternative: a fixed effects strategy that focuses on the comparison between mothers and mothers-to-be within the same district-year

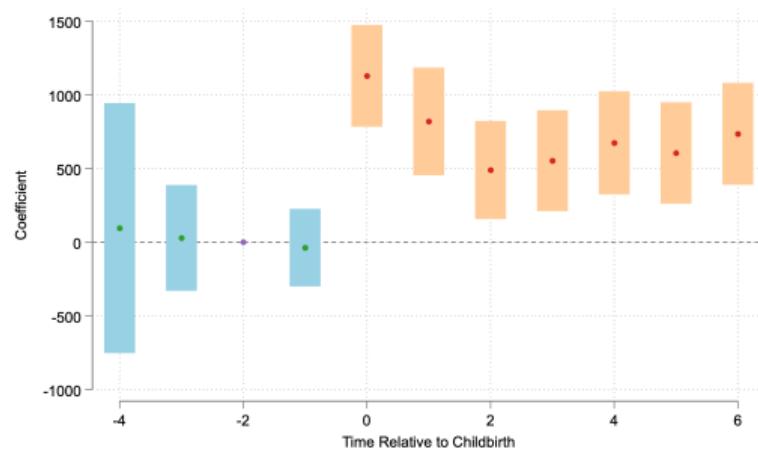
Alternative Strategy – Results

Employment



Pre-birth p-value: 0.2552
Pre = Post p-value: 0.0002

Earnings



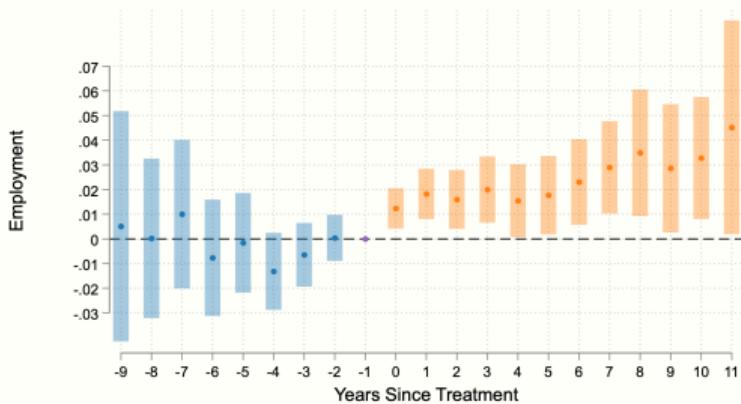
Pre-birth p-value: 0.8800
Pre = Post p-value: 0.0005

Thank you!

Main Results

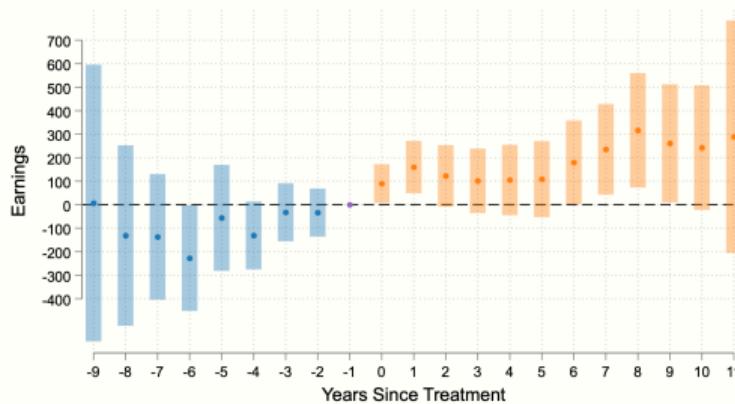
Mothers

Mothers: Employment



Pre average: -0.002
Post average: 0.024***
Pretrends p-value: 0.343
Pre = Post p-value: 0.070

Mothers: Earnings



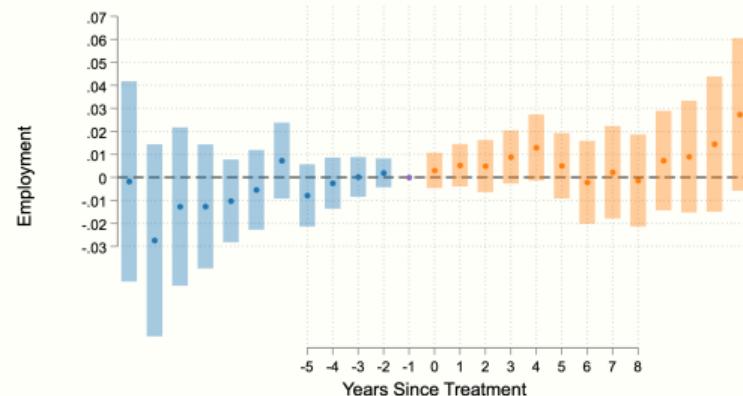
Pre average: -92.7
Post average: 184.4**
Pretrends p-value: 0.282
Pre = Post p-value: 0.070

Back

Main Results

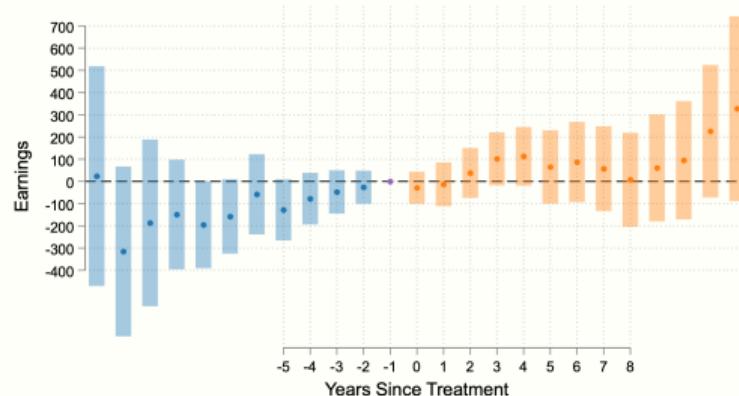
Placebo: Mothers-to-be

Mothers-to-be: Employment



Pre average: -0.006
Post average: 0.007
Pretrends p-value: 0.263
Pre = Post p-value: 0.275

Mothers-to-be: Earnings



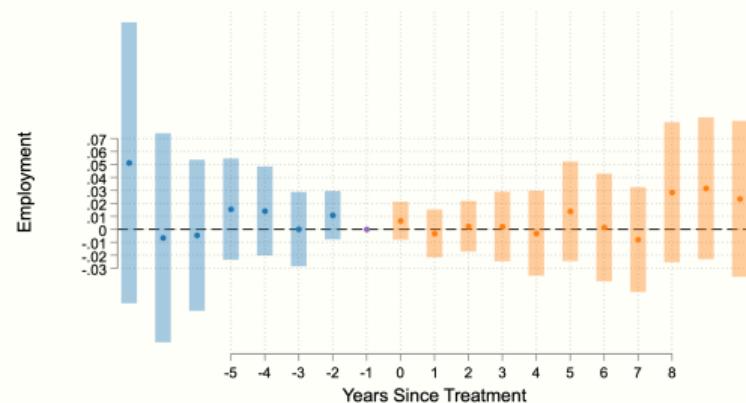
Pre average: -119.6
Post average: 87.7
Pretrends p-value: 0.341
Pre = Post p-value: 0.132

Back

Main Results

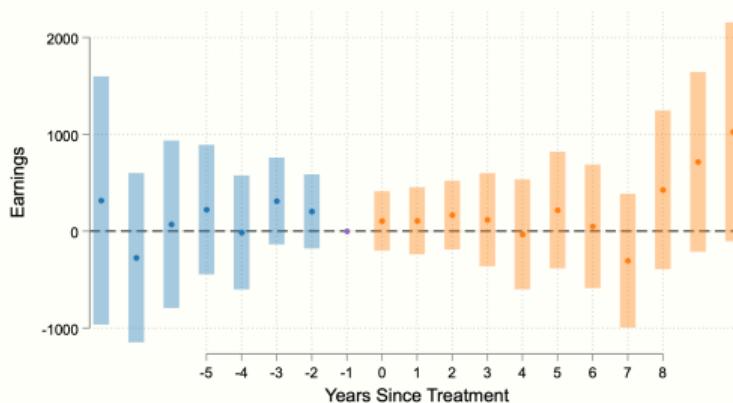
Effect of childcare on fathers

Fathers: Employment



Pre average: 0.012
Post average: 0.009
Pretrends p-value: 0.513
Pre = Post p-value: 0.915

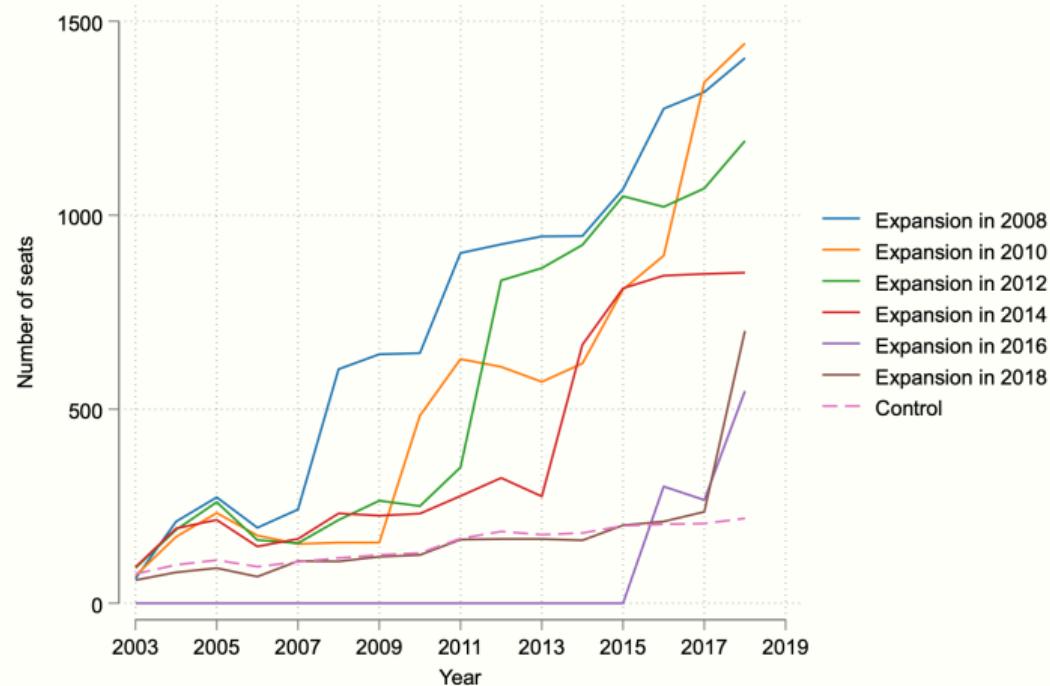
Fathers: Earnings



Pre average: 120.0
Post average: 236.2
Pretrends p-value: 0.247
Pre = Post p-value: 0.776

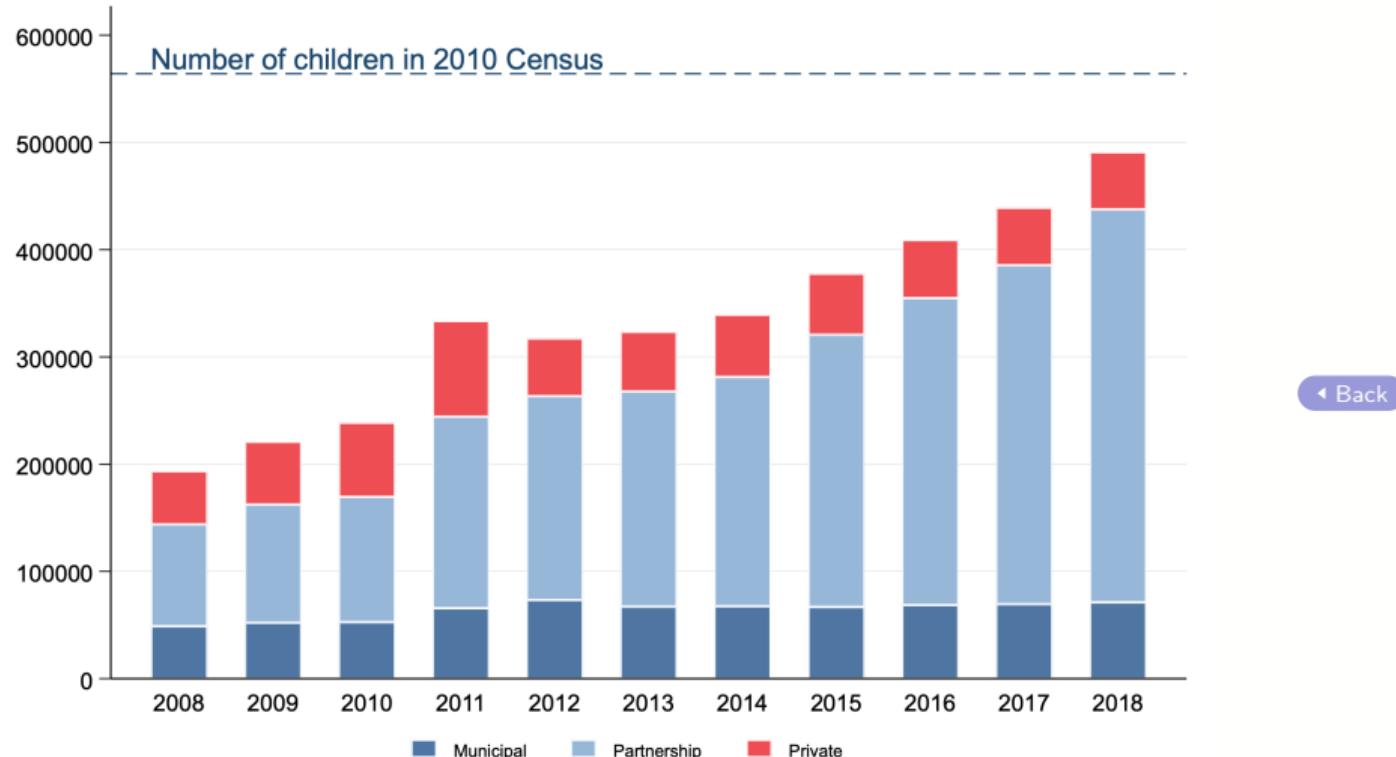
Back

Expansion of Childcare



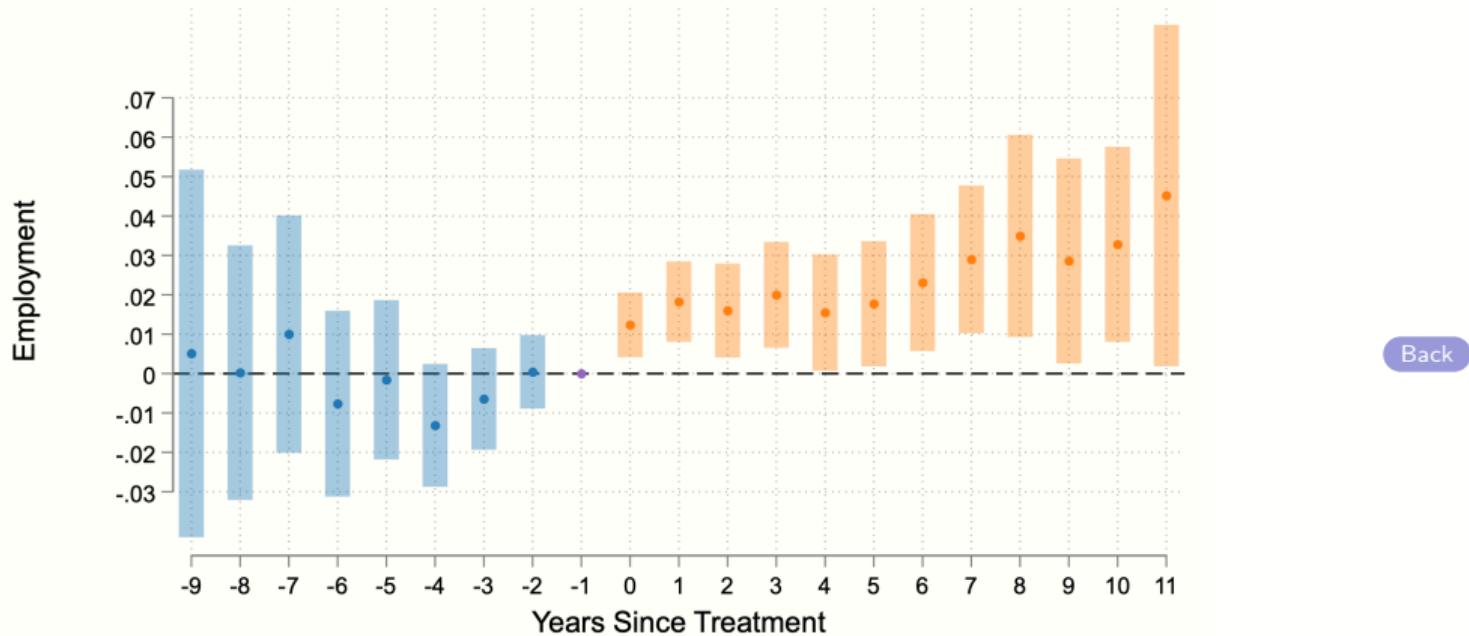
Back

Setting: Enrollment with More Data



◀ Back

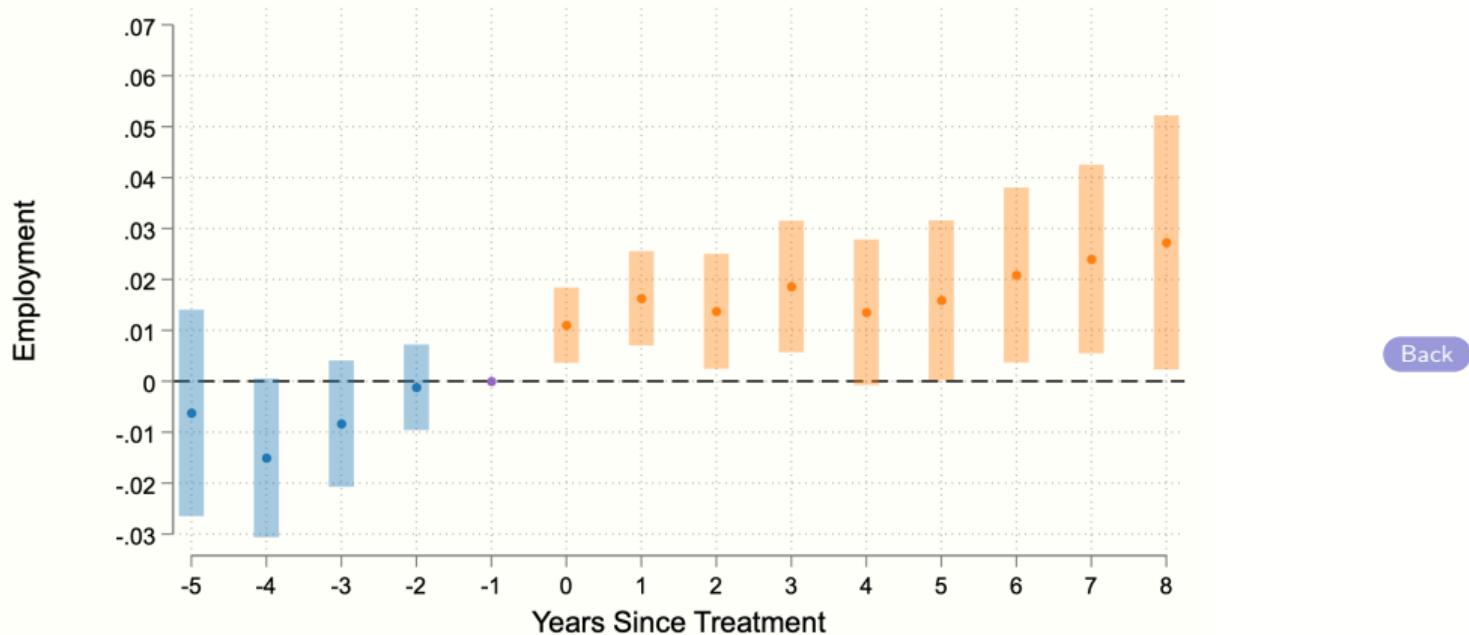
Mothers' Employment - Full Extent



Back

Pre average: -0.002
Post average: 0.024***
Pretrends p-value: 0.343
Pre = Post p-value: 0.070

Mothers: Employment - Alternative Definition (Median)



Back

Pre average: -0.008
Post average: 0.018***
Pretrends p-value: 0.297
Pre = Post p-value: 0.011