Dissertation Defense

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Free Childcare and the Motherhood Penalty: Evidence from São Paulo

With Marcela Mello and Rafael Latham-Proenca

Positioning and Background

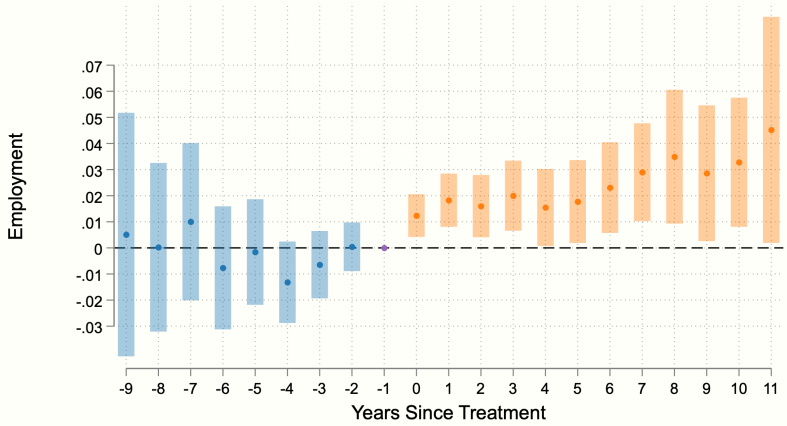
- Latin America has the largest motherhood penalties in the world, but relatively little evidence on impact of policies to address the issue, especially at scale.
- We study the large expansion of free childcare in Sao Paulo in 2008-2018.
- We use the Single Registry and focus on the poorest half of the population.

Research Question

- Did the expansion of free childcare facilities in SP increase mothers' employment?
- DID analysis using different timing of childcare expansions in different school districts.
- Alternatively, within-district comparison of mothers vs mothers-to-be:

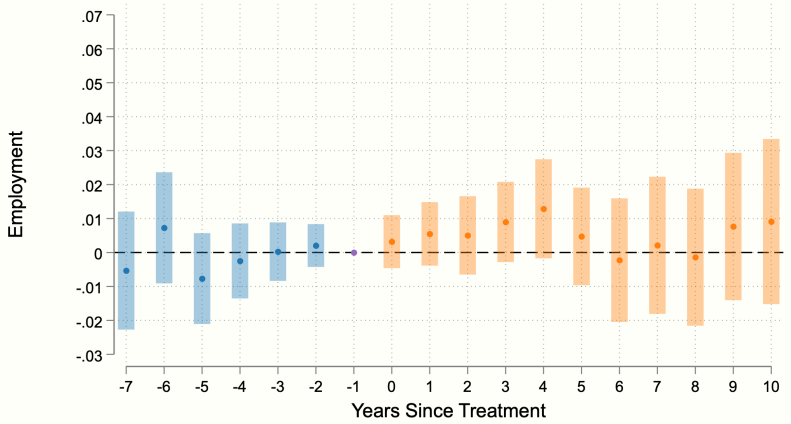
$$Y_{d,t,\tau} = \alpha_{d,\tau} + \gamma_{d,t} + \sum_{\substack{k=-4 \\ n \neq -2}}^{6} \beta_k Availability_{d,t} \cdot 1_{\tau=k} + \varepsilon_{d,t,\tau}$$

Results: Mothers' Employment



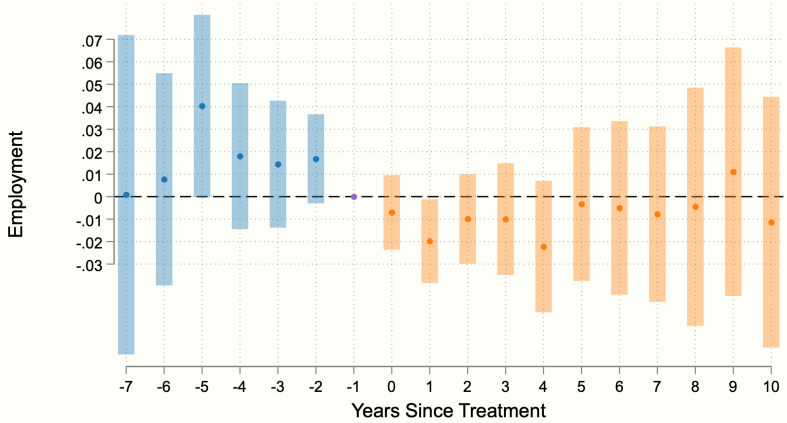
Pre average: -0.002 (0.009)
Post average: 0.024*** (0.008)
Pretrends p-value: 0.343
Pre = Post p-value: 0.070

Results: Employment of Mothers-to-Be



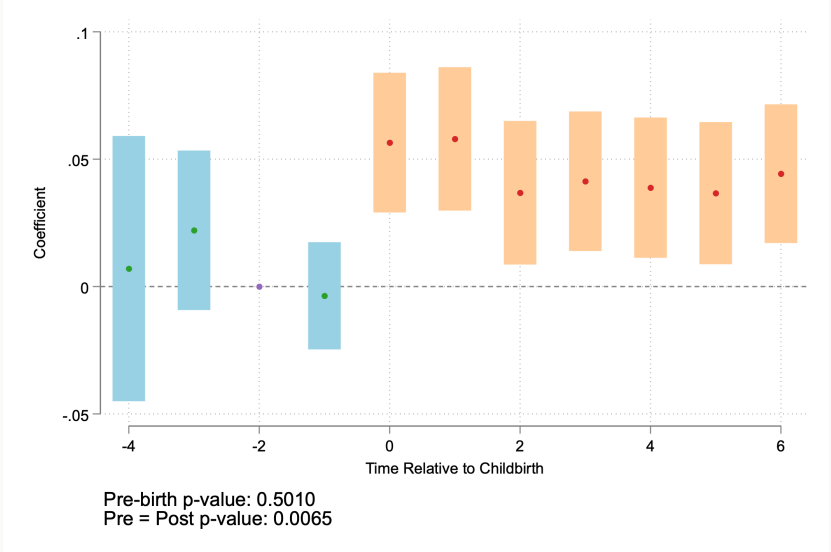
Pre average: -0.001 (0.005)
Post average: 0.005 (0.007)
Pretrends p-value: 0.129
Pre = Post p-value: 0.527

Results: Employment of Fathers



Pre average: 0.016 (0.015)
Post average: -0.008 (0.015)
Pretrends p-value: 0.526
Pre = Post p-value: 0.273

Results: Employment of Mothers, Within-District Comparison



Feedback and Next Steps

- Better documentation of migration patterns. Net in-migration as an outcome? Check frequency of moves within city?
- Results on informality. We have data available, but lower quality.
- Effects on other household members.
- General equilibrium effects.
- More data on quality of new childcare centers.
- Goal: Submission before June.

Congenital Disability Effects on Parents' Labor Supply and Family Composition: Evidence from the Zika Virus

With Marcela Mello and Rafael Latham-Proenca

Introduction

- Literature on impacts of child disability on parents is small and generally hard to rule out confounders related to maternal health behaviors.

- We study the case of the zika virus in Brazil. Unique conditions: danger of birth defects was unknown before this episode; virus is mostly asymptomatic.

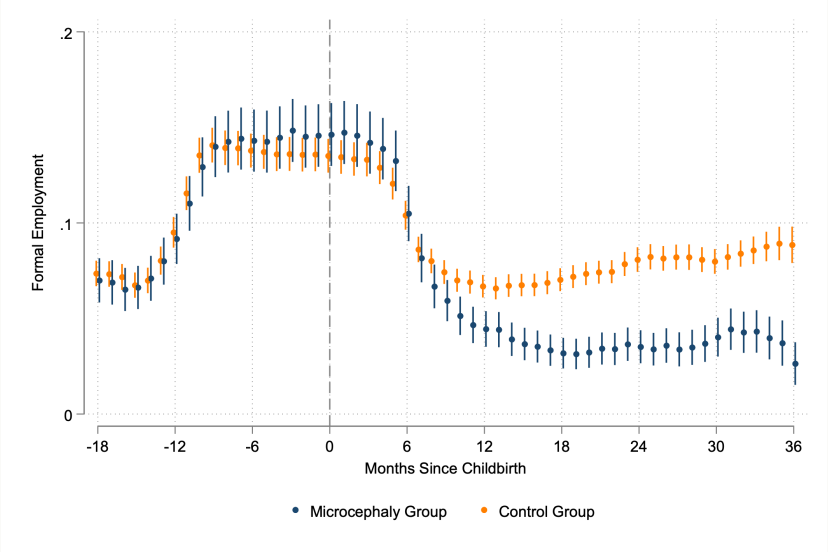
Research Question

- How did the birth of children with microcephaly affect parents labor market outcomes and the family structure?

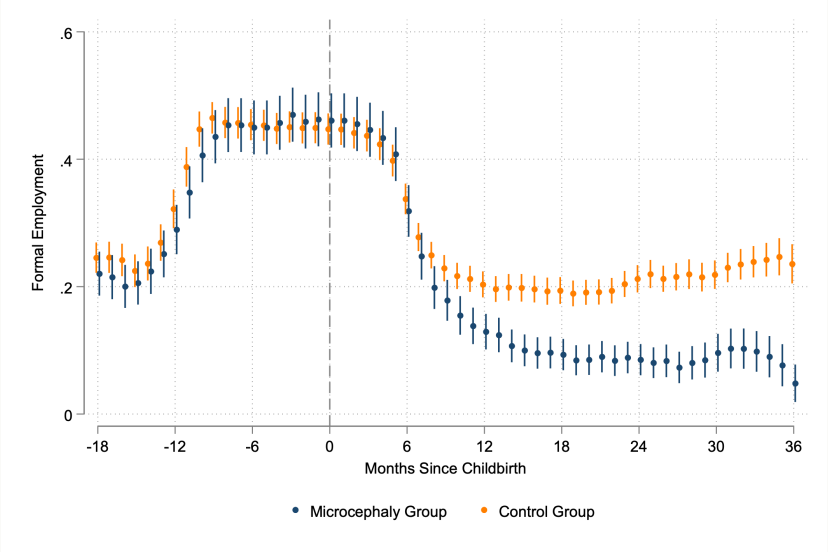
- We identify affected families using administrative health data and use Single Registry to match family members and employment records.

- We match each family affected to controls using: municipality and month of birth, and mothers' age and education. Main results are from simple treatment vs. control comparison.

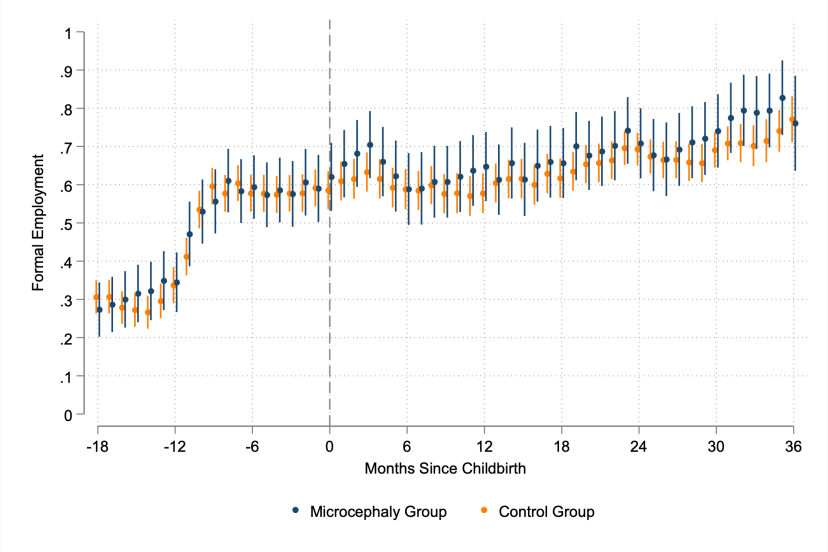
Results: Mothers' Employment



Results: Mothers' Employment (cond. working before)



Results: Fathers' Employment



Results: Effect on Subsequent Fertility

	Total Children After Treated/Control Child			
	(1)	(2)	(3)	(4)
Microcephaly	.000087	-.005	-.022*	.0076
	(.0081)	(.0087)	(.013)	(.014)
Constant	.13***	.13***	.15***	.13***
	(.003)	(.0044)	(.0069)	(.0065)
Number of Obs	36856	36457	17093	18970
Number of Clusters	1729	1717	1289	1457
Match FE	No	Yes	Yes	Yes
Sample	Full	Full	Firstborn	Not firstborn

Notes: This table shows total fertility up to three years after the birth of the reference child. Columns (1) and (2) include all families. We split the sample among families where the child with microcephaly or matched control was the first child (column (3)) and those where it was not (column (4)).

Results: Family Structure

	Father Present in 2017		Father Present in 2019		
	(1)	(2)	(3)	(4)	(5)
Microcephaly	.049***	.013	.043***	.0085	-.0028
	(.0094)	(.0098)	(.0088)	(.0093)	(.0039)
Father present 2017					.86***
					(.0095)
Constant	.15***	.19***	.13***	.16***	.0023
	(.004)	(.0049)	(.0035)	(.0046)	(.0033)
Number of Obs	37089	37089	37089	37089	37089
Number of Clusters	1728	1728	1728	1728	1728
Match FE	No	Yes	No	Yes	Yes
Weights	Uniform	Inv. Control #	Uniform	Inv. Control #	Inv. Control #

Notes: This table shows the effect of having a child with microcephaly on the likelihood of cohabiting fathers. Columns 1 and 2 show effects in 2017 and columns 3, 4 and 5 show effects in 2019. Columns 1 and 3 are simple differences, while 2, 4 and 5 have fixed effects and reweighting.

Feedback and Next Steps

- Goal is to submit soon.
- Effects on other household members.
- Effects on total household income, including transfers.
- Compare to the effects of birth anomalies in general?

Optimizing Incentives for Rooftop Solar: Accounting for Regional Differences in Marginal Emissions

Positioning and Background

- While the marginal reductions in CO2 emissions from solar installations vary substantially across states, subsidy rates do not vary accordingly.

- There is some research on optimal subsidies under different models of adoption, but it is harder to estimate potential gains because there are few empirical measures of the relevant elasticities.

Research Question

- What are the potential gains in emissions reduction to targeting subsidies flexibily, state-by-state?

- First step: estimate elasticities using variation in existing state subsidies as instruments.

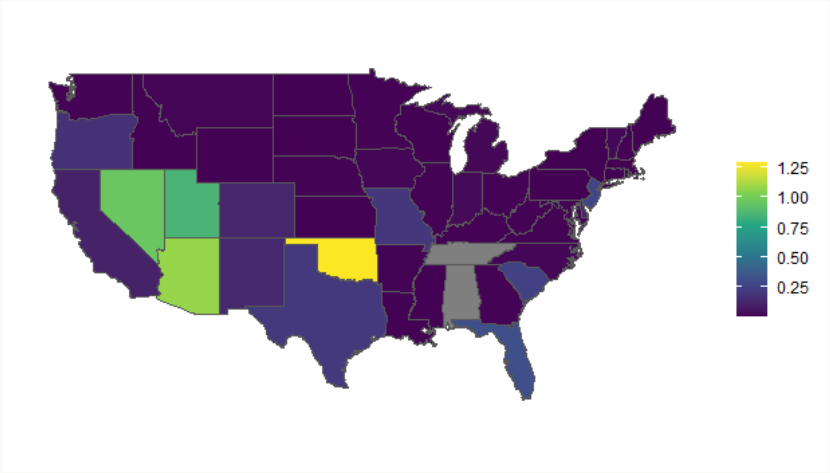
- Second: numerically simulate effects of an increase in subsidies that is a) uniform vs b) optimally targeted.

Results: Estimating Elasticities

Table 1: Regression Results

	(1) ln Capacity pc	(2) ln Price	(3) ln Net Price	(4) ln Capacity pc	(5) ln Capacity pc
Incentive	0.0373	0.00141	-0.259		
	(0.0126)	(0.0640)	(0.108)		
ln Price				21.83	
				(986.4)	
ln Net Price					-0.119
					(0.0690)
N	6622	5871	5871	5871	5871
Clusters	83	81	81	81	81
Year FE	Yes	Yes	Yes	Yes	Yes
Border FE	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes
Estimator	OLS	OLS	OLS	IV	IV

Results: Optimal Incentives



Feedback and Next Steps

- Include some variability in the elasticity of demand. Leverage within state variation in incomes by zip-code.
- Check sensibility of results to variation in parameters / bootstrap standard errors.
- Use different methods to get marginal effects on emissions. Incorporate decreasing returns, energy imports/exports.