

Does Access to Free Prekindergarten Increase Maternal Labor Supply

Elias Ilin¹

Samantha Shampine²

Ellie Terry³

¹Boston University and Federal Reserve Bank of Atlanta

²Federal Reserve Bank of Kansas City

³University of Washington

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The U.S. ranks 31st out of 37 OECD countries by the share of prime-working age women that are in the labor force

2019 Percent (%) of U.S. Prime Working Age (25-54) Women and Men that are..

	Women	Men	
Participating in the Labor Force	76.0	89.1	} 13.1ppt gap
Not in the Labor Force <i><u>because taking care of dependents</u></i>	13.2	1.2	

Source: BLS and OECD, authors calculations

Unaffordable childcare is one of the primary reasons for the low labor force participation among women

- ❑ **Early education policies attract attention of policymakers**
- ❑ **Expansion of publicly financed pre-K across the U.S.**
 - *Obama's "Preschool for All" → for low-income 4-years olds*
 - *Biden's plan → for all 3- and 4-years olds*

In this paper we ask two questions:

- 1. Does access to free pre-K increase labor supply of mothers?**
- 2. What demographic groups are affected the most?**

Our analysis..

- Accounts for the most recent state-level policy changes
- Uses novel DiD design applied to the 2002-2019 monthly (panel) CPS
- Exploits the variation in pre-K rules across all U.S. states

Previous Literature

❑ Effect of programs outside of the U.S.

Baker et al 2008, Havnes and Mogstad 2011

❑ Effects of the U.S. early learning policies

Cascio 2009, Gelbach 2002, Russo 2017, Fitzpatrick 2010, Sall 2011

Pre-K in the U.S.

- Voluntary free preschool program
- Funded by a state government
- Target 4-years olds
(in some states 3-years olds as well)
- 44 states + D.C. have pre-K programs

Pre-K Program Type	List of States	Average % of 4-Years Old Enrolled (as of 2019)
Universal and Mostly Universal	Alabama, District of Columbia, Florida, Georgia, Iowa, Massachusetts, Minnesota, Montana, New Jersey, New Mexico, New York, Oklahoma, Rhode Island, Vermont, West Virginia, Wisconsin	48.7
Income Eligibility	Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Hawaii, Kansas, Kentucky, Louisiana, Maryland, Michigan, Missouri, Nebraska, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, Washington	23.0
Eligibility Other Than Income	Alaska, Illinois, Maine, Mississippi, Nevada	19.2
No program	Idaho, Indiana, New Hampshire, South Dakota, Utah, Wyoming	0

Identification Idea

Shock – child turns 4 by the beginning of a school year

Treatment Group

- Mothers
- In states with pre-K, and
- Satisfy income eligibility

Expect increase in
the labor supply

Control Group

- Mothers
- In states without pre-K, or
- Not income eligible

Expect no effect on
the labor supply

Specification

$$y_{ist} = \beta_0 + \beta_1(preK_s \times A_{ist} \times E_{ist}) + u_{st} + \delta_t + \mu_i + \epsilon_{ist}$$

- ❑ y – labor force participation, employment, usual hours
- ❑ $preK$ - indicator that state offers pre-K program
- ❑ A - indicator that a child is 4 by the beginning of a school year
- ❑ E - indicator that family satisfies income eligibility
- ❑ u - state-level unemployment rate
- ❑ δ - year fixed effect
- ❑ μ - **individual fixed effect**

Data

- ❑ 2002-2019 Monthly Current Population Survey (CPS)
- ❑ Respondents are matched over time (*panel data*)
- ❑ Married and single mothers
- ❑ Prime working age (25 to 54)
- ❑ With exactly one child that turns 4 some time during the survey
- ❑ Drop states with pre-K eligibility other than income

	Single Mothers			Married Mothers		
	Full Sample	Less than BA	BA Plus	Full Sample	Less than BA	BA Plus
LFP	0.0284* (0.0155)	0.0324* (0.0176)	0.0124 (0.0298)	-0.00616 (0.0106)	-0.0183 (0.0150)	0.0121 (0.0148)
N	12718	10606	2112	24981	13745	11236
R ²	0.008	0.009	0.027	0.004	0.008	0.011
Employment	0.0426*** (0.0156)	0.0474*** (0.0174)	0.0169 (0.0342)	0.000150 (0.0107)	-0.0139 (0.0148)	0.0188 (0.0153)
N	12718	10606	2112	24981	13745	11236
R ²	0.009	0.010	0.014	0.005	0.008	0.011
Usual Hours	0.406 (0.526)	0.580 (0.609)	-0.213 (1.068)	-0.0502 (0.331)	-0.415 (0.439)	0.481 (0.502)
N	8597	6814	1783	16346	8218	8128
R ²	0.005	0.008	0.018	0.002	0.005	0.006

*** Significant at the 1% level.

** Significant at the 5% level.

* Significant at the 10% level.

Result 1 – Access to pre-K increases probability of the labor force participation and employment of single mothers

	Single Mothers			Married Mothers		
	Full Sample	Less than BA	BA Plus	Full Sample	Less than BA	BA Plus
LFP	0.0284* (0.0155)	0.0324* (0.0176)	0.0124 (0.0298)	-0.00616 (0.0106)	-0.0183 (0.0150)	0.0121 (0.0148)
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Result 2 – But only
for single mothers
without BA

	Single Mothers				Married Mothers			
	White, non-Hispanic	Black, non-Hispanic	Other, non-Hispanic	Hispanic	White, non-Hispanic	Black, non-Hispanic	Other, non-Hispanic	Hispanic
LFP	0.0454** (0.0205)	0.0366 (0.0321)	-0.0686 (0.0602)	0.00114 (0.0452)	0.00409 (0.0120)	-0.0307 (0.0502)	-0.0307 (0.0375)	-0.00977 (0.0309)
N	6974	2864	679	2201	17566	1346	2418	3651
R ²	0.015	0.027	0.119	0.033	0.004	0.030	0.047	0.027
Employment	0.0628*** (0.0215)	0.0394 (0.0301)	-0.0221 (0.0522)	0.00277 (0.0468)	0.00547 (0.0124)	0.0347 (0.0482)	-0.0214 (0.0368)	-0.0175 (0.0300)
N	6974	2864	679	2201	17566	1346	2418	3651
R ²	0.016	0.031	0.223	0.026	0.005	0.051	0.074	0.027
Usual Hours	0.863 (0.753)	0.610 (0.935)	-1.394 (1.731)	-1.331 (1.819)	-0.203 (0.386)	2.071 (1.403)	1.743 (1.431)	0.0649 (0.874)
N	4916	1838	425	1418	12236	894	1330	1886
R ²	0.012	0.021	0.059	0.047	0.003	0.040	0.028	0.030

*** Significant at the 1% level.

** Significant at the 5% level.

* Significant at the 10% level.

Result 3 – And only for single White, non-Hispanic mothers

Take-aways:

Access to free pre-K..

1. Increases labor force participation and employment of *single mothers*
2. But only of *White, non-Hispanic single mothers*
3. And those *single mothers without college degree*
4. No effect for married mothers
 - ❑ *Blau and Kahn 2007 – decline in responsiveness of married women's labor supply to wages*