Parental Allowance Increase and Labor Supply: Evidence from a Czech Reform

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Motivation

- Cash transfers are a popular policy tool that support families with children
- A drawback of such policies is a potentially **negative effect on parents' labor supply**, which can limit (reverse) the welfare effect
- Informed policy decisions require accurate evidence of the effect

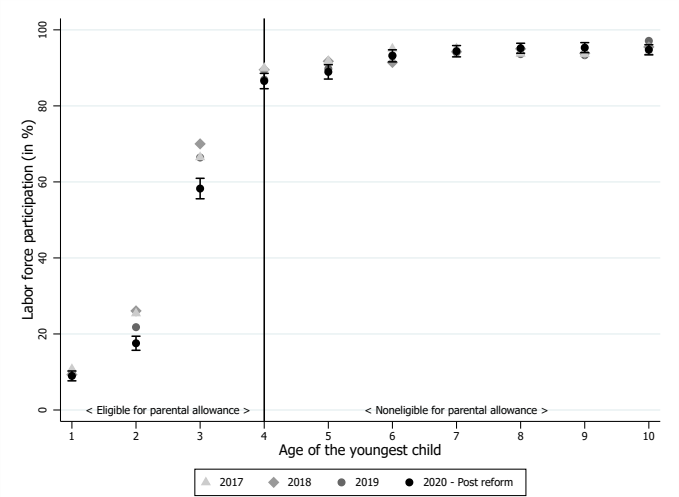
- Evidence of decrease in labor supply in European countries (Hener, 2016; Tamm, 2010; Jensen and Blundell, 2021)
- A recent US debate on replacing the Child Tax Credit with a child allowance (Corinth et al., 2022)

This Paper

- Study of a Czech reform that increased parental allowance (PA) by 36%
- PA is a **universal basic income-type benefit**
  - Eligibility and amount independent of previous income
  - Independent of current labor market status

- Maternal **labor force participation fell by 6.3 pp** (14%)
  - Mothers w/ their first child: -9.1 pp (26%)
  - University-educated mothers: -16 pp (31%)
- No effect on fathers' labor force participation

Preview of Our Results



- Increase in PA reduced labor force participation of mothers with children of 2 and 3 y.o.

Institutional Details

Institutional Backgroud

- **Parental allowance (PA)**: a fixed amount of money unconditional on previous income and labor market status
  - Choice of monthly installments (length of PA)
  - Max installment is income dependent
  - Max length is up to the age of 4
  - Installments can be changed every 3 months
- **Parental leave**: job protection up to the age of 3
- Parental allowance and leave are independent policies
- Children enter institutional childcare after the age of 3 (as of the end of August)
- Mothers take parental leave and allowance in 98% cases

Reform

- Add extra CZK 80k (36%; EUR 3,200) to everyone who draws PA on or after January 1, 2020
- Intention to increase PA was publicly known as of May 2019
- Default option kept monthly installments and extended the period of allowance

Empirics

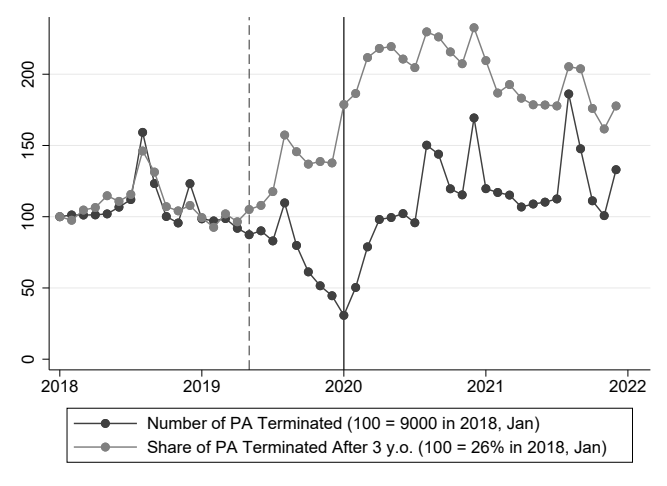
Data

- Czech Labour Force Survey
  - Rotating panel (5 quarters), treated as a repeated cross-section
  - Missing information on earnings and the length of parental allowance
  - Information on labor force participation and hours worked
- Aggregated administrative data about PA (MoLSA)
- Our own survey
  - 1.2k parents
  - Parental leave choices, awareness of the reform

Empirical Strategy

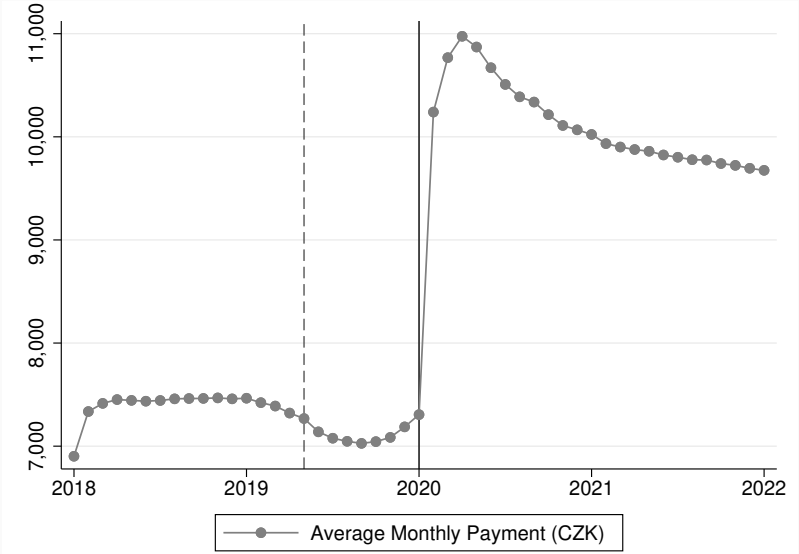
- Difference-in-differences specification
  - TG: mothers with the youngest child of 2.00-3.99 y.o.
  - CG: mothers with the youngest child of 4.00-5.99 y.o.
- Robustness exercises with alternative age groups and Slovak mothers
- Imperfect compliance: finished PA before the reform
- Mothers postponed the termination of PA: in TG more short-term PA type of mothers Estimated Effect

Parental Allowance (First Stage)



- Effort to postpone the termination of PA
- Share of long-term PA increased
- Immediate increase in average allowance

Average Monthly Installment of Parental Allowance



Reduction in Maternal Labor Force Participation and Hours Worked

	Treated: 2-3 y.o.		Treated: 1-3 y.o.		Treated: 3 y.o.	
	LFP	HW	LFP	HW	LFP	HW
Post	-0.019**	-0.764**	-0.009	-0.269	-0.020*	-0.561
	(0.008)	(0.389)	(0.006)	(0.309)	(0.012)	(0.565)
Treated	-0.438***	-17.260***	-0.557***	-21.569***	-0.195***	-7.881***
	(0.008)	(0.334)	(0.007)	(0.266)	(0.011)	(0.483)
Post*Treated	-0.063***	-2.209***	-0.049***	-1.633***	-0.085***	-3.360***
	(0.014)	(0.551)	(0.010)	(0.411)	(0.020)	(0.851)
N	14,774	14,774	22,817	22,817	7,007	7,007
Adj. R-Square	0.29	0.30	0.40	0.41	0.15	0.16
Pre, Treated Mean	0.44	13.84	0.31	9.53	0.69	22.62

- -6.3 pp (14%); -2.2 hours worked (16%)
- 13% to 17% effect in all specifications

Maternal Labor Activity by First Child Status

	With One Child		Two or More Children	
	LFP	HW	LFP	HW
Post	-0.021	0.228	-0.015	-1.111**
	(0.016)	(0.701)	(0.012)	(0.542)
Treated	-0.462***	-18.185***	-0.434***	-16.742***
	(0.014)	(0.560)	(0.012)	(0.468)
Post*Treated	-0.091***	-4.009***	-0.040**	-1.187
	(0.022)	(0.899)	(0.020)	(0.783)
N	5,641	5,641	7,340	7,340
Adj. R-Square	0.32	0.32	0.28	0.29
Pre, Treated Mean	0.41	12.46	0.46	14.18

- First Child: -9.1 pp (22%) and -4 hours worked (32%)
- Extra money to cover the transition period before another child

Maternal Labor Activity by Educational Attainment

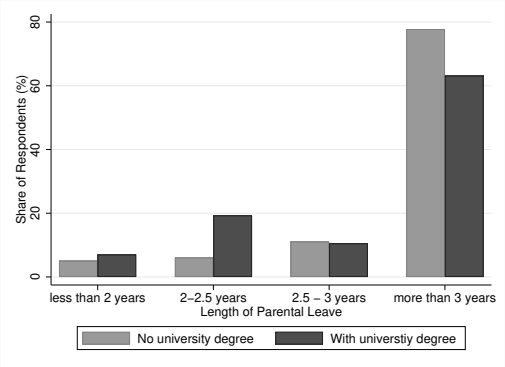
	Secondary with GE		University	
	LFP	HW	LFP	HW
Post	-0.034**	-0.998*	0.027**	-0.141
	(0.014)	(0.597)	(0.013)	(0.594)
Treated	-0.455***	-18.280***	-0.394***	-16.841***
	(0.013)	(0.512)	(0.015)	(0.597)
Post*Treated	-0.010	-1.080	-0.160***	-4.768***
	(0.022)	(0.870)	(0.023)	(0.916)
N	6,135	6,135	4,348	4,348
Adj. R-Square	0.28	0.31	0.31	0.34
Pre, Treated Mean	0.42	14.14	0.52	16.24

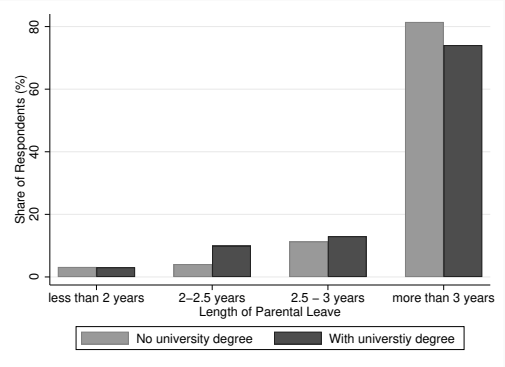
- University educ'ed: -16 pp (31%), -4.8 hours (30%)
- No effect on other educational group

Why Did University-Educated Mothers Respond More?

- Max length of PA (up to 4 y.o.)
  - University-educ'ed started from shorter planned parental allowance (parental leave)
  - University-educ'ed extended parental leave
- Job protection (up to 3 y.o.): Less-educated likely more concerned
- University-educated have only a slightly better understanding of the reform

Length of Parental Leave





Paternal Labor Force Participation and Hours Worked

	All Fathers		University Education		One Child	
	LFP	HW	LFP	HW	LFP	HW
Post	0.003	-0.393	0.010	-1.008**	0.011	0.547
	(0.005)	(0.285)	(0.006)	(0.442)	(0.008)	(0.433)
Treated	-0.009**	-0.124	0.005	0.469	-0.009	0.322
	(0.004)	(0.233)	(0.005)	(0.387)	(0.006)	(0.349)
Post*Treated	0.006	-0.136	-0.003	0.228	-0.002	-0.818
	(0.007)	(0.366)	(0.007)	(0.557)	(0.010)	(0.543)
N	12,457	12,457	2,965	2,965	4,578	4,578
Adj. R-Square	0.08	0.07	0.06	0.09	0.05	0.07
Pre, Treated Mean	0.96	40.86	0.99	42.35	0.97	41.07

- No effect among fathers

Discussion

Discussion

- Generalizability of the effect
  - Mothers with young children are likely more elastic than other demographic groups
  - Relevant population for family policies
  - Non-labor income shock while off the market (status quo)
- Temporal nature of part of the effect
  - *Manipulation* into treatment boosted the effect only temporarily
  - Effect may differ for mothers who start with the extra CZK 80k
- Effect visible before the outbreak of COVID-19, but the pandemic may have boosted the effect
- No visible effect on fertility rate

Summary

- A 36% increase in PA led to a 6 pp drop in the maternal labor supply
- Substantial effects on university-educated mothers and mothers with one child
- An income shock while off the labor market likely strengthens the effect
- No effects on fathers

Appendix

Interpretation of Estimated Coefficients

$$\beta^{est} = ATT + \underbrace{\omega^n(\mathbb{E}(Y|E_1 = 1, E_2^n = 1, P = 1) - \mathbb{E}(Y|E_1 = 1, E_2 = 0, P = 1))}_{\text{additional effect caused by } \textit{manipulation}} + \underbrace{(1-\omega)c}_{\text{misclassification}}$$

- E_1 (child younger than 4 y.o.) and E_2 (PA on January 1) eligibility conditions
- $c = \mathbb{E}(\Delta Y|E_1 = 1, E_2 = 0) - \mathbb{E}(\Delta Y|E_1 = 1, E_2 = 1)$
- $ATT = \mathbb{E}(\Delta Y|T = 1) - \mathbb{E}(\Delta Y|T = 0)$, mothers who satisfy both eligibility conditions without manipulation

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