Breastfeeding and Maternal Employment: Evidence from the U.S. Infant Formula Crisis

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What We Ask & What We Add

At the peak of the infant formula crisis in 2022, more than a third of parents in the United States struggled to find formula, with no safe alternatives. Many responded by initiating or extending breastfeeding duration.

Research Question: Did the increase in breastfeeding during the 2022 formula crisis lead mothers to reduce their labor market participation?

Contributions:

1. Provides causal evidence on how an external shock influenced the potential trade-off between breastfeeding and maternal employment.
2. Leverages variation in paid family leave (PFL) across states to explore how policy environments shape postpartum labor market decisions.

Why This Matters

- Breastfeeding offers health benefits for both mothers and infants.
- Only 25% meet the 6-month exclusivity recommendation, and 37% continue at 12 months (HP2030 goal: 54.1%).
- Rates are even lower among low-income families and historically marginalized racial/ethnic groups.
- Structural barriers such as limited lactation workplace and community support contribute to these disparities.

Why This Matters

- Breastfeeding and employment often conflict due to time and logistical demands (e.g., pumping, breaks).
- Formula shortage increases the cost of not breastfeeding $\Rightarrow$ shift toward breastfeeding.
- Without workplace accommodations, mothers may:
  - Reduce work hours
  - Delay return to work
  - Switch jobs or exit the labor force
- Even short-term postpartum work reductions can lower long-term earnings.
- Effects likely heterogeneous by access to paid family leave.

Data

- Survey of Income and Program Participation (SIPP), covering calendar years 2017–2022. Nationally representative panel; households interviewed annually over four years.
- Sample: 1,439 mother-birth pairs (16,416 mother-month observations).
- Focus: Mothers observed at least 4 months before and after childbirth.
- Monthly employment outcomes:
  1. Labor force participation (binary: 1 if working for pay or looking for work)
  2. Total hours worked (continuous, includes zero if not employed)
  3. Any hours worked (binary: 1 if worked for pay any positive number of hours)

Empirical Strategy: Identification

- We estimate a difference-in-differences (DiD) model leveraging the 2022 infant formula crisis as a natural experiment.
- Identification compares mothers before and after childbirth, within and outside the shortage period.
- We control for:
  - Individual fixed effects (α_i)
  - Month-by-state ($\gamma_m \lambda_s$) and year-by-state ($\delta_y \lambda_s$) fixed effects
  - Observable time-varying covariates (X_{ismy})
- Focuses on within-mother changes over time to account for time-invariant confounders.

Empirical Strategy: Model

Difference-in-Differences Framework

$$Y_{ismy} = \beta_0 + \beta_1 \left(\text{ShortagePeriod}_{my} \times \text{PostBirth}_{ismy}\right) + \beta_2 \text{ShortagePeriod}_{my} + \beta_3 \text{PostBirth}_{ismy} + X_{ismy} + \alpha_i + \gamma_m \lambda_s + \delta_y \lambda_s + \varepsilon_{ismy}$$

- Y_{ismy}: Employment outcome for mother i in state s, month m, year y.
- $\text{ShortagePeriod}_{my}$: 1 if month-year falls in the Feb–Dec 2022 period, 0 otherwise.
- PostBirth_{ismy}: 1 if month is after childbirth for mother i, 0 otherwise.
- Standard errors clustered at the mother-birth level.

Extensions:

- *Heterogeneity:* Interact β_1 with education level and state-level paid family leave availability
- *Event Study:* Replace PostBirth_{ismy} with month-specific dummies relative to birth to visualize timing of effects

Preliminary Results

Overall Effects:

- **–6.7** percentage points (pp) labor force participation (LFP) ($P < 0.05$)
- **–7.3** pp any hours worked ($P < 0.05$)
- **–2.5** hours/week ($P < 0.05$)

Heterogeneity by Education:

- **High school or less:** –16.5 pp LFP, –17.3 pp any hours, –5 hours/week (all $P < 0.01$)
- **College or more:** No statistically significant effect

Heterogeneity by availability of state PFL programme:

- No differential effect in states with paid family leave policies in place

Conclusion

Key Insights:

- Formula shortage $\rightarrow$ increased breastfeeding $\rightarrow$ reduced maternal employment
- Effects concentrated among less-educated mothers
- Suggests trade-offs between breastfeeding and maternal labor force participation

Policy Implications:

- State PFL availability alone is insufficient, accessibility and usability matter
- Less-educated mothers may face barriers to claiming PFL or workplace support
- Need for:
  - Improved lactation accommodations at work
  - Inclusive family leave policies that reach vulnerable groups
  - Greater alignment of labor protections with the time demands of breastfeeding

Limitations

- Cannot observe actual breastfeeding behavior in SIPP.
- Paid Family Leave (PFL) variable reflects availability, not take-up or awareness.
- Estimates capture short-term effects; long-term labor impacts are unknown.
- Potential anticipatory effects, labor increases before birth during shortage.
- The results may reflect increased economic pressure or planning due to a crisis.

Thank You!

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¡Gracias!

Let's connect!
Questions or feedback? We'd love to talk more.

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