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# Effects of the Expanded Child Tax Credit on Employment Outcomes: An Update

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Benjamin Glasner, Postdoctoral Research Scientist

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Written with Elizabeth Ananat, Christal Hamilton, and Zach Parolin

# Research Question: How did expanded CTC payments affect parents' labor supply?

Employment ↓

- Unconditional transfer
- Removal of phase in
- Cut in relative wage and an increase in non-labor income
- Simulations report reductions in parental employment

No Effect or Employment ↑

- Simulations based on 1980s – 2000s
- Lower willingness to leave work
- Volatile nature of low-wage work
- Canadian child allowances - null
- Parents increased work (5%) and decreased work (5%)

Note: CTC expansion was temporary and this is a short-run analysis

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# Approach

- Data:
  - Current Population Survey (Jan 2021 to Feb 2022) - Employment and Labor Force Participation
  - Household Pulse Survey (Jan 2021 to Feb 2022) – Employment
- Treatments:
  - Dichotomous: Children vs. no children
  - Continuous: Predicted net change in CTC benefit (tests income effect)
  - Continuous: % Change in return to work (tests substitution effect)
- Design:
  - We use a two-way fixed effect difference-in-differences approach
  - Condition on age, sex, and education status of the household head
  - Include robustness checks using alternative treatment timing, event studies, and group-dosage response designs

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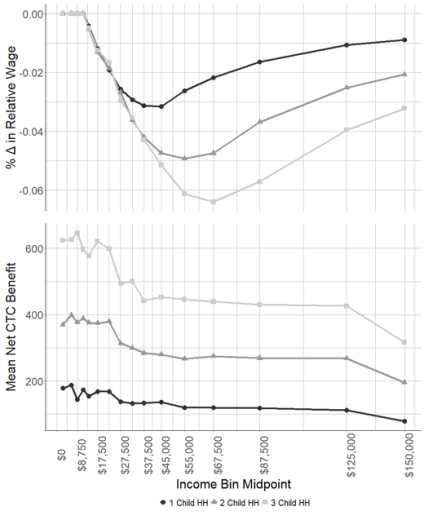
# Treatments




- Two Children, $8,750:
  - Children vs. no children - 1
  - % Change in return to work ~0%
  - Net change in monthly CTC benefit ~$380
- Two Children, $67,500:
  - Children vs. no children - 1
  - % Change in return to work ~-5%
  - Net change in monthly CTC benefit ~$275
- Two Children, $125,000:
  - Children vs. no children - 1
  - % Change in return to work ~-3%
  - Net change in monthly CTC benefit ~$270

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# Results

**Table 1**: Difference-in-Differences Estimates of the Effect of the Expanded CTC on Employment and LFP

| | **Binary Treatment** | | **Continuous Treatment** | | **Continuous Treatment** | |
|---|---|---|---|---|---|---|
| | 1 = Household with Child(ren) | | $100s of Net Monthly Benefit | | 1% Change in Relative Wage | |
| CPS (N=822,933) | 1:Employed | 2:Active in Labor Force | 3:Employed | 4:Active in Labor Force | 5:Employed | 6:Active in Labor Force |
| Treatment | 0.043*** | 0.037*** | 0.000 | 0.000 | -1.032*** | -0.834*** |
| | (0.003) | (0.003) | (0.006) | (0.005) | (0.053) | (0.056) |
| Treatment X Post | -0.002 | -0.000 | 0.001 | 0.001 | 0.04 | -0.022 |
| | (0.004) | (0.003) | (0.001) | (0.001) | (0.064) | (0.057) |
| Pulse (N=818,009) | 1:Employed (Intent-to-Treat) | 2:Employed (Treatment-on-Treated) | 3:Employed (Intent-to-Treat) | 4: Employed (Treatment-on-Treated) | 5:Employed (Intent-to-Treat) | 6: Employed (Treatment-on-Treated) |
| Treatment | 0.006 | 0.005 | -0.009 | -0.009 | -0.958*** | -0.987*** |
| | (0.004) | (0.005) | (0.005) | (0.005) | (0.089) | (0.072) |
| Treatment X Post | 0.004 | 0.007 | 0.002 | 0.003 | -0.073 | -0.006 |
| | (0.006) | (0.011) | (0.001) | (0.002) | (0.091) | (0.009) |

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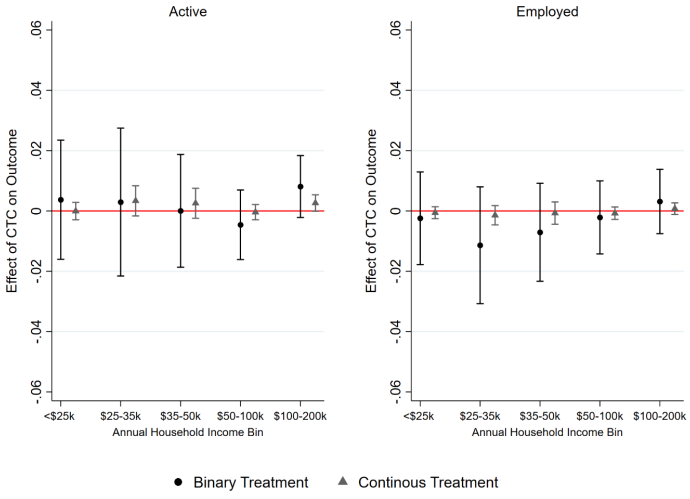
# Heterogeneity by Income Bin

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# Conclusion

- Our employment analyses do not support the claim that the CTC expansion resulted in reduced employment or labor force participation
- Our findings are robust:
  - Across three measures of the CTC expansion
  - Across both the CPS and Pulse
  - Using both an Intent-to-Treat and Treatment-on-Treated design
  - We find no indication of a violation in parallel trends or lagged effects on employment/labor force participation
  - When testing for Group-dosage response variation

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# Appendix

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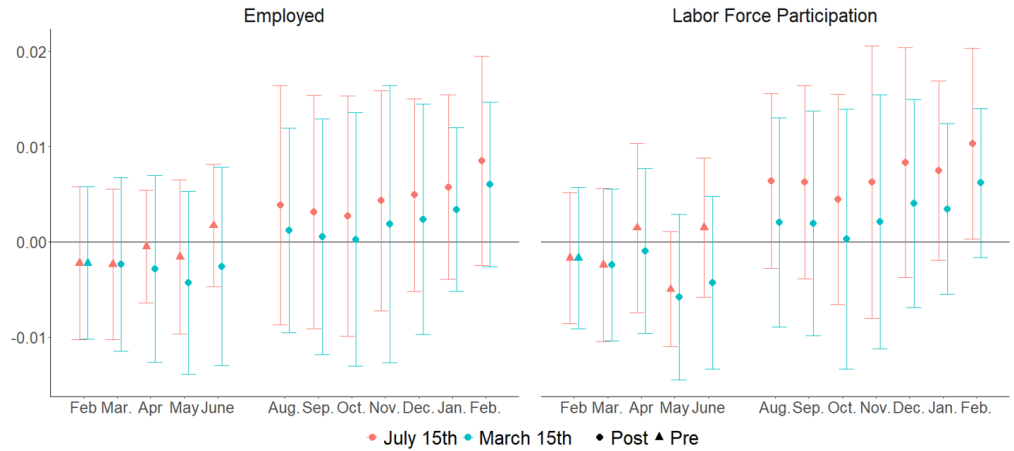
# Event Study on the Effect of the CTC Expansion using both the March 15th and July 15th Treatment Definitions

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# Group-dosage response

**Table 7:** Difference-in-differences Estimates of the Effect of the CTC Expansion on Employment Outcomes Using the Callaway and Sant'Anna (2020) Methodology and Defining Treatment Group by the Additional Monthly CTC Payment Received (CPS, January 2021 through December 2021)

| **Treatment-Group:** Monthly Additional CTC Payments | **Treated Units** | **Effect Estimate** | |
|---|---|---|---|
| | | **1: Employed** | **2: Active in Labor Force** |
| All Treated Households | 208,572 | 0.004<br>(0.004) | 0.006<br>(0.004) |
| $100 | 6,701 | -0.009<br>(0.013) | -0.006<br>(0.012) |
| $125 | 17,000 | -0.011<br>(0.009) | -0.009<br>(0.009) |
| $150 | 10,787 | 0.007<br>(0.014) | 0.009<br>(0.013) |
| $175 | 39,616 | 0.0003<br>(0.007) | 0.004<br>(0.007) |
| $200 | 5,355 | 0.006<br>(0.019) | 0.011<br>(0.019) |
| $225 | 7,123 | 0.022<br>(0.019) | 0.035<br>(0.017) |
| $250 | 17,930 | -0.010<br>(0.009) | 0.0001<br>(0.009) |
| $325 | 11,419 | -0.008<br>(0.013) | -0.003<br>(0.011) |
| $350 | 24,882 | -0.005<br>(0.009) | -0.001<br>(0.008) |
| $375 | 11,787 | -0.003<br>(0.011) | 0.001<br>(0.01) |
| $525 | 17,082 | 0.007<br>(0.010) | 0.012<br>(0.010) |
| $675 | 6,182 | 0.024<br>(0.016) | 0.025<br>(0.015) |

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# Group-dosage response

**Table 8:** Difference-in-Differences Estimates of the Effect of the CTC Expansion on Employment Outcomes Using the Callaway and Sant'Anna (2020) Methodology and Defining Treatment Group by The Number and Age of Children (CPS, January 2021 through December 2021)

| Treatment-Group: Children ages: $0 \leq x < 6$ | Treatment-Group: Children ages: $6 \leq x < 18$ | Treated Units | Effect Estimate | |
|---|---|---|---|---|
| | | | 1: Employed | 2: Active in Labor Force |
| All Treated Households | | 208,572 | 0.004 | 0.006 |
| | | | (0.004) | (0.004) |
| 0 | 1 | 46,206 | 0.002 | 0.003 |
| | | | (0.005) | (0.005) |
| 0 | 2 | 37,703 | 0.001 | 0.002 |
| | | | (0.006) | (0.005) |
| 0 | 3 | 13,158 | -0.0003 | 0.003 |
| | | | (0.006) | (0.006) |
| 0 | 4 | 3,523 | -0.0001 | 0.0001 |
| | | | (0.007) | (0.007) |
| 1 | 0 | 31,145 | -0.003 | 0.001 |
| | | | (0.006) | (0.005) |
| 1 | 1 | 21,477 | 0.006 | 0.006 |
| | | | (0.008) | (0.007) |
| 1 | 2 | 11,045 | -0.001 | 0.0001 |
| | | | (0.006) | (0.006) |
| 1 | 3 | 3,990 | -0.0001 | 0.002 |
| | | | (0.006) | (0.007) |
| 2 | 0 | 15,782 | -0.003 | -0.0007 |
| | | | (0.007) | (0.006) |
| 2 | 1 | 6,402 | -0.001 | 0.0004 |
| | | | (0.007) | (0.007) |
| 2 | 2 | 2,649 | 0.001 | 0.002 |
| | | | (0.007) | (0.007) |

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# Group-dosage response

**Table 9:** Difference-in-Differences Estimates of the Effect of the CTC Expansion on Employment Outcomes Using the Callaway and Sant'Anna (2020) Methodology and Defining Treatment Group by the Change in the Relative Wage (CPS, January 2021 through December 2021)

| Treatment-Group: Change in the Relative Wage | Treated Units | Effect Estimate | |
|---|---|---|---|
| | | 1: Employed | 2: Active in Labor Force |
| All Treated Households | 208,572 | 0.004 | 0.006 |
| | | (0.004) | (0.004) |
| -1% Δ in Relative Wage | 18,263 | -0.0001 | 0.003 |
| | | (0.007) | (0.006) |
| -2% Δ in Relative Wage | 27,455 | 0.001 | 0.004 |
| | | (0.006) | (0.006) |
| -3% Δ in Relative Wage | 41,780 | -0.001 | 0.002 |
| | | (0.005) | (0.005) |
| -4% Δ in Relative Wage | 16,830 | 0.003 | 0.006 |
| | | (0.007) | (0.006) |
| -5% Δ in Relative Wage | 22,265 | -0.002 | 0.002 |
| | | (0.006) | (0.006) |
| -6% Δ in Relative Wage | 16,686 | 0.003 | 0.004 |
| | | (0.007) | (0.007) |
| -7% Δ in Relative Wage | 8,735 | 0.0003 | 0.003 |
| | | (0.006) | (0.007) |
| -8% Δ in Relative Wage | 3,869 | 0.002 | 0.004 |
| | | (0.007) | (0.007) |
| ≤ -9% Δ in Relative Wage | 2,174 | -0.0001 | 0.002 |
| | | (0.007) | (0.007) |

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