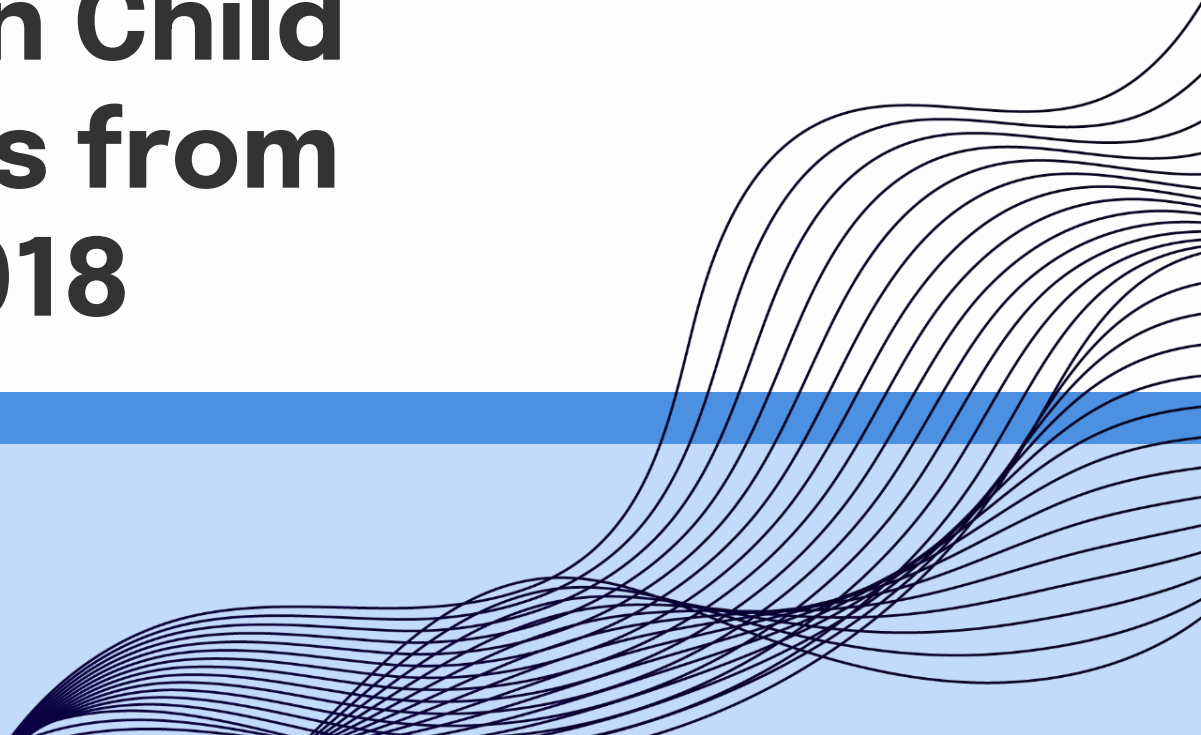


Understanding Changes in Child Care Costs from 2008 to 2018

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Introduction

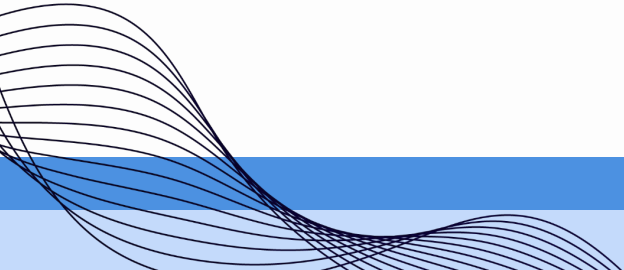
Our research question: How have county-level childcare costs changed between 2008 and 2018, and do price trends differ by child age group?

Data from U.S. Department of Labor and its Women's Bureau

Context about childcare costs in the U.S.:

- 27% of U.S. parents have stopped their jobs or education to care for their children
- 42% of the Generation Z parents (born in 1997 and now) surveyed reported spending between 30% and 70% of their income on childcare
- From 1,048 U.S. parents, 69% of them reported that paying for childcare was a household struggle

Data from 2023 *Theirworld Research*

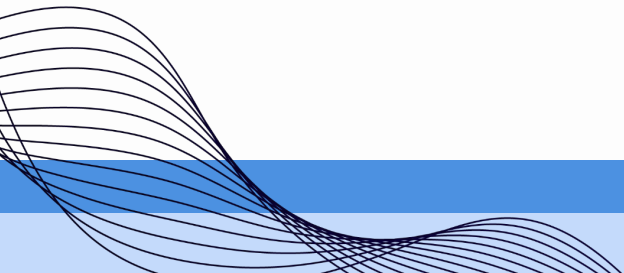


Our Motivation

American parents are struggling to pay for adequate childcare.

We were left curious.

We decided to investigate how childcare costs have changed in a decade-long period, considering how prices differ between age groups.



Data Introduction

The dataset explores data on the costs of childcare in relation to various life factors like county, race, household income, and military status.

What to know about the dataset:

- Published into the TidyTuesday collection on May 9th, 2023
- Sourced from National Database of Childcare Prices (U.S. Department of Labor), 2023)
- Took data from 3,144 counties, across 11 years (2008–2018) with 34,567 county-year observations and 57 variables

Unit of observation:

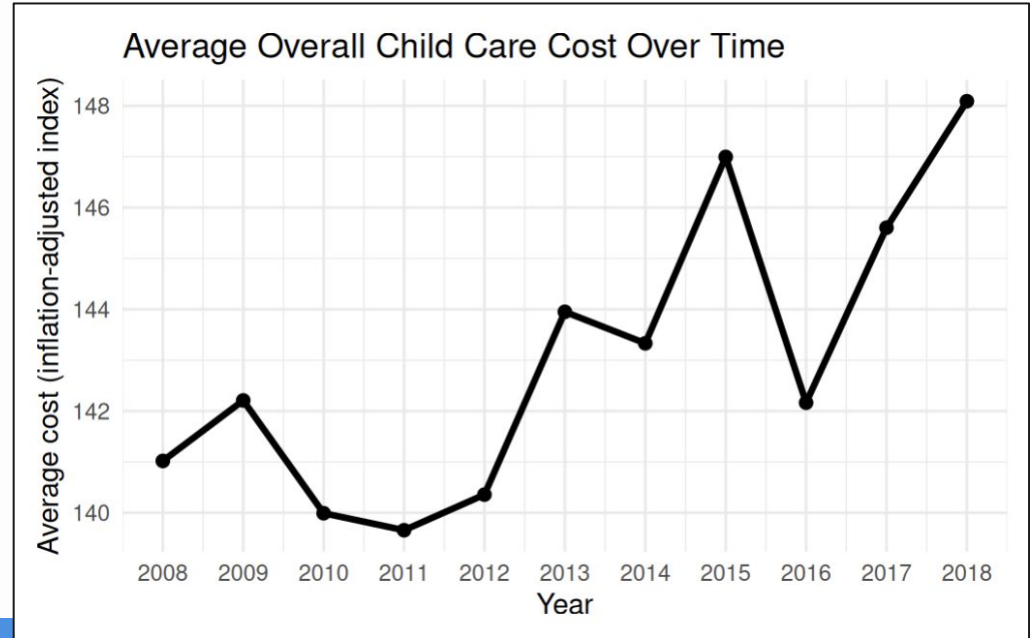
- Each row is a county in a given year
- There are 34,567 rows and 61 columns
- 8 of the childcare cost variables (including center based or home care for infants, toddlers, preschoolers) were adjusted to 2018 dollars using the Consumer Price Index (CPI) to allow for fair cost comparisons across the 2008–2018



Analysis

Line Graph

- From 2008–2018 average **childcare costs increased by \$7.07 a week**
- **Dip from 2009–2012** → great recession forced providers to lower prices
- By 2018, costs reach their highest level, suggesting **sustained upward pressure in the childcare market**



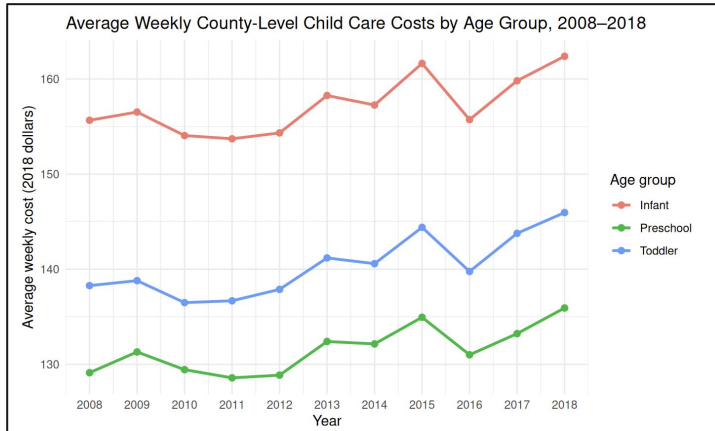
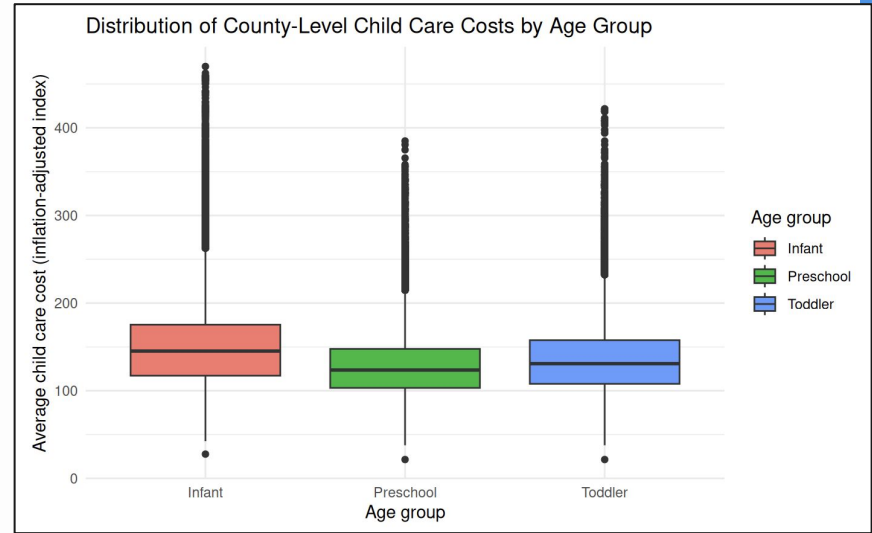
change_in_childcare_costs
<dbl>

7.071044

Analysis

Box Plot

- Infant care → Toddler care → Preschool care
- Infant care shows greatest variability → costs for **younger children are more sensitive to local conditions**
- High outliers → **some counties have disproportionately large child care costs**



Line Graph

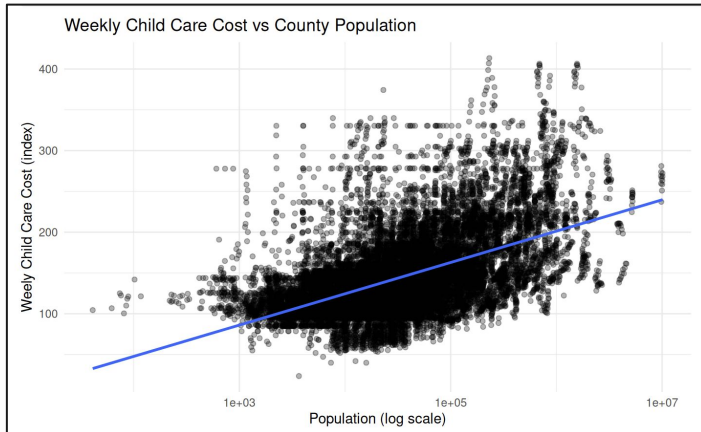
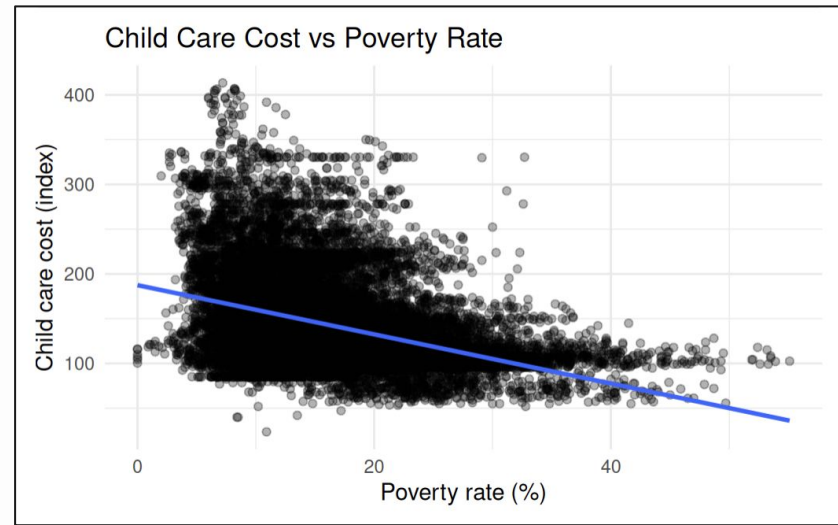
- Similar slope over time → **cost increases affect all ages not just one group**
- Rise indicates real **cost increase beyond inflation**

study_year <chr>	avg_infant <dbl>	avg_toddler <dbl>	avg_preschool <dbl>
2008	155.6634	138.2764	129.1184
2018	162.3921	145.9582	135.9210

Further Analysis

Cost vs. Poverty Rate

- Higher-poverty counties show **lower childcare costs**, but reflects **lower wages and cost of living (not true affordability)**
- Wealthier counties exhibit **greater cost variation** → **more segmented childcare markets**
- Lower prices in poorer areas **do not imply better access**, highlighting a gap between **cost and actual affordability**



Cost vs. Population

- Childcare costs increase with population, indicating **strong links to urban demand and density**
- This relationship persists across all county sizes (log scale), not just extreme cases of large cities
- Larger counties show **greater price variation**, which suggests **regional cost-of-living differences shape childcare markets**

Discussion

What we learned: As analyzed before, childcare costs have risen across all three age groups by an average of \$7.07 per week, with infant care costing the most, then toddler care, and pre-school care as the least expensive

- These statistics suggest childcare became less affordable over time and the market adapts to the intensity of care a child requires

Limitations on results and analysis: Our analysis does not go in depth about demographics beyond age (race and geographical location could be impactful variables). Additionally, there are no variables to reflect county types (rural, urban, etc.)

Discussion

Potential qualm with reliability: This data set's last year of collection was 8 years ago, so discussing our results' implications must be framed with timeline context

Future suggestions: Further analyze demographics, including geographical location and race, to make more specific conclusions about how childcare costs have changed for Americans

Thank you!

Let's protect and support American parents in raising their children in a healthy and supportive environment.

