When it hurts the most: Timing of parental job loss and a child’s education

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Abstract

We investigate the stages of childhood at which parental job loss is most consequential for their child’s education. Using Danish administrative data linking parents experiencing plant closures to their children, we compare end-of-school outcomes to matched peers and to closures hitting after school completion age. Parental job loss disproportionally reduces test taking, scores, and high school enrolment among children exposed during infancy (age 0-1). Effects are largest for low-income families and lowest-achieving children. The causal chain from job loss to education likely works through reduced family income. Maternal time investment partially offsets the effect of reduced income.

Introduction

• Broad consensus that early stages are crucial for child’s human capital (Attanasio and Currie, 2012).
• However, “early stages” are not clearly defined (Attanasio et al., 2020).

• — There may be “windows of opportunity” for interventions (Attanasio et al., 2020).
• A common shock that can affect child’s learning is parental job loss.

• Mixed findings from a number of contexts (e.g., Page et al., 2019; Hilger, 2019; Mustafa et al., 2020; Romer, 2020).

• Little evidence on children exposed to parental unemployment in early childhood.

— At which stages of childhood is parental job loss most consequential for child’s education?

Data and background


• Flexible hiring and firing + generous safety nets (“flexicurity”).


• Plant closures ≡ YoY ′ in firm, location, industry, or employer. (Hilger and Stavins, 2020).

• Although relatively exogenous job-loss events, Hilger (2016) shows selection into plant closures.

• Control group of children with similar parental working history before “placebo” closure.

— 51,032 closures in 1986-2017 (around 1.5% per year).

— 1,112,714 treated-control (T-C) pairs with same age at real or placebo closure (age 0-22).

Research design

• Design difference-in-differences (DiD) comparisons around school completion (age 16).

• T-C diff if aged > 16 at closure controls for age invariant selection into treatment.

• Id- assumption: absent parental plant closure, constant T-C diff across age at closure.

— Improve on papers exploiting variation either in exposure or timing.

• Estimate comparisons by childhood stage (u(i) ≡ age at parental job loss) (Hilger, 2016).

— All treatments are identical at age 0-1: “infancy”.

— Late stages only: “early childhood”.

— All stages mid: “mid childhood”.

— All stages late: “adolescence”.

Results

• Children exposed to parental plant closure have lower achievement at age 16.

— Likelihood of taking end-of-school tests decreases by 0.7% per p.

— Achievement in mathematics conditional on test taking decreases by 0.01 – 0.02%.

• Negative achievement effects are largest if exposed in infancy (age 0-1, 0.05%).

• Impact of test-taking monotonically decrease with age at closure.

• Little achievement effects if exposed in early (age 2-5) or mid (age 6-11) childhood.

• Milder achievement effects if exposed in adolescence (age 12-16, 0.02%).

Additional results

• Negative impacts are more pronounced among children with family income below median.

• Children exposed in infancy are less likely enrolled in upper-secondary education at age 17.

• Largest negative impacts in infancy for both paternal and maternal job loss, impacts of the latter are relatively more persistent throughout childhood.

Distribution impacts

• Are treatment effects concentrated in specific parts of the achievement distribution?

— Build 80 indicator variables = 1 if achievement is at least (i) 0.05 bins in the ±2σ interval.

— Estimate the main model with each of the 80 indicators as dependent variable.

— Plot estimated coefficients against achievement level by childhood stage.

— This combines results on test taking + achievement level (dep. var = 0 if test not taken).

• Largest negative impacts among children exposed in infancy throughout the achievement distribution.

• Negative largest impacts in the bottom half of the distribution.

Main References


Acknowledgements

Our thanks to Antonio Dall’ Alba, Michele Gianovella, Kurt Hendberg, Viktória Myren Jensen, Daniel Kirsimann, Stefano Lombardi, Eva Moeh, Panayi Pajda, Alessandra Rodin, Eivinie Ruiz Valenzuela, Oskar Sano, and Rosella Stans, seminar participants at CENS2023 workshop at Aarhus University, Università Cattolica, the JEM23 workshop at the University of Milan, the 2023 IWAHE conference, VIVE, the 38th ABEF Conference at the University of Geneva, the EALE 2023 Conference at the University of Prague for their help, useful discussions, and comments. We acknowledge funding from Università Cattolica (3132 grant “UNISQUAL”). Any responsibility for the views expressed in the article rests solely with the authors.