The Economics of Early Childhood Education

Wichita, KS
October 8, 2019

Ben Horowitz
Community Development, Federal Reserve Bank of Minneapolis*
Benjamin.Horowitz@mpls.frb.org

*The views expressed here are those of the author and not necessarily those of the Federal Reserve Bank of Minneapolis or the Federal Reserve System.
Federal Reserve System
Overview
Today’s Roadmap

- The evidence on the return on investment in high-quality programs for families with young children
- An overview of the child care marketplace
How do we learn about the economic return on investment (ROI) in early childhood programming?
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Perry Preschool—Costs and Benefits Over 62 Years

Source: Schweinhart, et al. (2005)
Perry Preschool—Costs and Benefits Over 62 Years

Source: Schweinhart, et al. (2005)
Early childhood development investments

- Home visiting HV
- Health & nutrition HN
- Early learning programs ELP
- Quality Rating and Improvement System
- Parent education
- Child welfare system
Fiscal-related benefits prenatal to age 5

Health

Economic Well-Being

Sources: Bartick & Reinhold (2010); Devaney, Billheimer, & Schore (2008); Green, et al. (2014); Karoly, et al. (1998); Olds, et al. (1997); Miller (2015); Reynolds, Temple, White, Ou, & Robertson (2011)
Fiscal-related benefits prenatal to age 5

Health

- Better maternal and child health \(HV, \text{HN}\)
- Fewer low-weight births \(HV, \text{HN}\)
- Fewer emergency room visits \(HV\)
- Reduced costs to Medicaid, TANF, and food stamps \(HV\)
- Reduced child abuse and neglect \(HV, \text{ELP}\)

Economic Well-Being

- Higher maternal earnings and tax revenue \(HV, \text{ELP}\)
- Lower cash assistance \(HV\)
- Lower maternal crime \(HV\)

Sources: Bartick & Reinhold (2010); Devaney, Billheimer, & Schore (2008); Green, et al. (2014); Karoly, et al. (1998); Olds, et al. (1997); Miller (2015); Reynolds, Temple, White, Ou, & Robertson (2011)
Fiscal-related benefits ages 5 to 17

Education

General Well-Being

Sources: Garcia, Heckman, Leaf, & Prados (2016); Heckman, Moon, Pinto, Savelyez, & Yavitz (2010); Muschkin, Ladd, & Dodge (2015); Olds, et al. (2004); Reynolds, Temple, White, Ou, & Robertson (2011); Schweinhart, et al. (2005)
Fiscal-related benefits ages 5 to 17

Education

- Improved school readiness HV, ELP
- Reduced need for special education ELP
- Less grade repetition ELP
- Higher high school graduation rates ELP

General Well-Being

- Reduced juvenile crime HV, ELP

Sources: Garcia, Heckman, Leaf, & Prados (2016); Heckman, Moon, Pinto, Savelyez, & Yavitz (2010); Muschkin, Ladd, & Dodge (2015); Olds, et al. (2004); Reynolds, Temple, White, Ou, & Robertson (2011); Schweinhart, et al. (2005)
Fiscal-related benefits ages 18+

Education

Economic Well-Being

General Well-Being

Sources: Garcia, Heckman, Leaf, & Prados (2016); Heckman, Moon, Pinto, Savelyez, & Yavitz (2010); Reynolds, Temple, White, Ou, & Robertson (2011); Schweinhart, et al. (2005)
Fiscal-related benefits ages 18+

Education
- Higher educational attainment ELP

Economic Well-Being
- Higher earnings and tax revenue ELP
- Lower cash assistance ELP
- Higher homeownership rates ELP

General Well-Being
- Improved health ELP
- Lower crime ELP

Sources: Garcia, Heckman, Leaf, & Prados (2016); Heckman, Moon, Pinto, Savelyez, & Yavitz (2010); Reynolds, Temple, White, Ou, & Robertson (2011); Schweinhart, et al. (2005)
Return on Investment
Evidence from longitudinal early childhood studies

• Perry Preschool
  • Schweinhart: $16 to $1
  • Heckman: $7–$12 to $1

• Abecedarian Educational Child Care
  • Barnett: $4 to $1
  • Heckman: $7 to $1

• Chicago Child-Parent Center
  • Reynolds: $10 to $1

• Elmira Prenatal/Early Infancy Project
  • Karoly: $5 to $1

Sources: Garcia, Heckman, Leaf, & Prados (2016); Heckman, Moon, Pinto, Savelyez, & Yavitz (2010); Karoly, et al. (1998); Masse & Barnett (2002); White, Ou, & Robertson (2011); Schweinhart, et al. (2005)
High return principles

• Engage parents
• Invest in quality
• Start early
• Match services to risk profile
  • Intensive and free services that start early for high-risk children
  • Less-intensive services with partial subsidy for moderate-risk children
  • No subsidy for low-risk children
Child care market participants

Parents - primarily those with children under age 6

Government and taxpayers

Private sector (except child care providers)

Child care providers
Child care market participants

Parents - primarily those with children under age 6 (57% of market)

Private sector (except child care providers) (4% of market)

Government and taxpayers (39% of market) (mostly pre-K)

Child care providers
Kansas Children Under Age 6 with All Parents in Labor Force

Kansas Children Under Age 6 with All Parents in Labor Force

Parents with young children earn less...

![Graph showing percent difference in hourly wage and hours worked across all parents.](image-url)

Note: Hours worked refers to average hours spent in work-related activities. Hourly wage refers to the median hourly wage.

Source: CPS 2016; American Time-Use Survey 2015; CEA calculations.

Author: Aaron Sojourner, [presentation with video](#)
...but pay more

- Annual price, center-based care for an infant in Kansas: $11,000

- Annual price, center-based care for a preschooler in Kansas: $8,500

Source: Child Care Aware of America
...but pay more (and cost even more)

- Annual price, center-based care for an infant in Kansas: $11,000
- Annual **cost**, center-based care for an infant in Kansas: $17,000
- Annual price, center-based care for a preschooler in Kansas: $8,600
- Annual **cost**, center-based care for a preschooler in Kansas: $7,700

Source: Child Care Aware of America, www.costofchildcare.org
Businesses: Decision to provide support for employees to access child care
Businesses: Decision to provide support for employees to access child care

Time and Effort At Work

As a result of child care (age 0-2) problems have you ever:

<table>
<thead>
<tr>
<th>Event</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left work earlier than normal</td>
<td>63%</td>
</tr>
<tr>
<td>Been late for work</td>
<td>56%</td>
</tr>
<tr>
<td>Missed a full day of work</td>
<td>55%</td>
</tr>
<tr>
<td>Been distracted at work</td>
<td>54%</td>
</tr>
<tr>
<td>Missed part of the work shift</td>
<td>32%</td>
</tr>
</tbody>
</table>

Businesses: Decision to provide support for employees to access child care

Time and Effort At Work

As a result of child care (age 0-2) problems have you ever:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced your regular work hours</td>
<td>25%</td>
</tr>
<tr>
<td>Turned down further education/training</td>
<td>25%</td>
</tr>
<tr>
<td>Turned down a new job offer</td>
<td>25%</td>
</tr>
<tr>
<td>Turned down a promotion/reassignment</td>
<td>16%</td>
</tr>
<tr>
<td>Changed from full-time to part-time work</td>
<td>15%</td>
</tr>
<tr>
<td>Quit a job</td>
<td>13%</td>
</tr>
</tbody>
</table>

Based on the parent survey results, a model generates the following annual average cost estimates:

- Working parents lose $37 billion (lost earnings and extra costs of job search)
- Businesses lose $13 billion (lost revenues and extra costs to rehire)
- Taxpayers lose $7 billion (lower income tax and sales tax)

Source: Belfield (2018)
Child care providers

- Licensed
  - Child Care Centers (54% of Kansas slots)
  - “Family/In-Home” Child Care Providers (24%)
  - School-age care programs (22%)
- Family, Friend, and Neighbor (grandma, nanny, etc.)
  - Nationally: most common care environment
  - Data limited, but indicate much bigger role for infants

Source: Child Care Aware state fact sheets, Office of Child Care (U.S. Dept of HHS)
Government and taxpayers: Decision to subsidize access to and supply of high-quality child care

- Current subsidies fall short of covering demand...
  - CCDF: 15/25 percent of eligible children
  - Early Head Start: 7 percent of eligible children had access
    - 10 percent in Kansas
  - Head Start: 31 percent of eligible children had access
    - 47 percent in Kansas
- ...and often fail to reflect the market in other ways, including low provider reimbursement rates or high family copayments.
Sources


