Investing in Infants and Toddlers:
The Economics of Early Childhood

Given the current slowdown of our nation's economy, much attention is being paid to the challenges faced by families grappling with the rising cost of food, transportation, and other basic necessities. While policymakers and economists are working to understand and improve these immediate economic challenges, some are also turning their focus to an economic stimulus of a different sort – investment in young children and their families. Economic researchers who study issues of human capital (education and skills) are increasingly coming to the conclusion that early childhood professionals have known all along: investing in high-quality early childhood programs reaps considerable societal savings and numerous individual and social benefits. New research on early childhood investments provides opportunities for early childhood professionals and economists to work together to support greater investments in programs for infants, toddlers and their families. This article outlines current economic research, its application within the field of child development, and ways in which early childhood professionals and economists can partner with one another to inform the public policy process.

The Search for Efficiency: Does Early Childhood Development Make the Grade?

Economic researchers are on a constant quest for efficiency. Economic problems are usually addressed with the question: what is the most effective and most cost-efficient way to resolve a situation? This was the question University of Chicago economist and Nobel Prize winner James Heckman asked when he began to research government spending on human capital programs.

Heckman came across two major findings in his research:[1]

1. The current work force in the United States is of low quality, and costs of crime (prevention and intervention) are high. In addition, adverse childhood environments have the propensity to lead to disadvantages for children and to continue the cycle of poverty.
2. Human capital determines productivity: investment in increasing human capital for individuals can yield exponential and sustainable benefits to both the individual as well as society.

Thus, with each year of education or newly acquired skill, an individual's human capital will generate an exponential amount of benefits.[2]

Using this information, Heckman utilized ***cost-benefit analysis*** to determine what types of human capital programs (e.g., job training programs, tax reform, higher education subsidies, and early intervention programs) produce the most benefit and savings to society. **Cost-benefit analysis is an economic tool used to determine whether or not program outcomes will justify the amount of money spent.** Heckman's analysis determined the following conclusion:

> "The returns to human capital investments are greatest for the young for two reasons: (1) younger persons have a longer horizon over which to recoup the fruits of their investments; and (2) skill begets skill."[3]

Heckman's work demonstrated that investing in the earliest years of life produces high benefits and savings to society, and specifically illustrated how benefits and savings are diminished for each year the investment is delayed.

Heckman also concluded that traditional views of "learning" should be broadened to encompass informal learning and non-cognitive skills (in addition to formal learning that measures cognitive skills).[4] Building upon this, the Committee for Economic Development reported that traditional views of education should be redefined as a "process that begins at birth and encompasses all aspects of children's early development, including their physical, social, emotional, and cognitive growth."[5] These economic findings supplement current child development research demonstrating that while cognitive development is a key factor in fostering human capital, social and emotional development is just as crucial. Both formal and informal learning contribute equally to developing the skills needed to yield the maximum amount of benefit and savings to society.

Cost-benefit Analysis and Early Child Development

Economic researchers utilize child development research and existing evaluations of high-quality early childhood programs in their cost-benefit analyses on human capital. One of the most recent and most striking cost-benefit findings comes from the High/Scope Perry Preschool Project. This study, widely cited for its thorough measures, has tracked its participants through age forty. Results demonstrate that investment in high-quality early childhood services reaps generous rewards: for every dollar invested in one Perry Preschool Project participant, there was a savings equivalent to the cost of one copy of *If You Give a Mouse a Cookie*. This amounts to a total savings of 15,525 copies of *If You Give a Mouse a Cookie* (or $265,000) per child over the course of forty years. Of these, each child would keep the benefit value of 3,808 copies, but 11,717 copies would directly value society.[6] Immediate returns are apparent for the individual child—high-quality early childhood education programs give children the skills to cultivate and extend academic and social advantages. And while each child benefits from every dollar invested, the benefits to society are more than three times the individual amount.

Other examples illustrate similar savings. Results from the Chicago Child-Parent Center Program (CPC) show that for every dollar invested in one CPC participant, the cost of one set of blocks was saved. Evaluations of the Prenatal/Early Infancy Project in Elmira, New York exhibit a savings equivalent to a Winnie-the-Pooh doll per dollar invested in each child. Lastly, the Abecedarian study notes a savings equivalent to the cost of a can of Play-Doh for every dollar invested in each participant. Table 1 details the savings derived from selected programs (per dollar invested). While some programs exhibit smaller returns than those found in the High/Scope Perry Preschool Project, they do demonstrate that the "returns to Early Childhood Development Programs are especially high when placed next to other spending by governments made in the name of economic development."[7]

Table 1: Savings Derived from Selected Early Childhood Programs (per dollar invested)[8,9]

High/Scope Perry Preschool Project	$17.07*
Chicago Child-Parent Center Program	$ 7.14
Prenatal/Early Infancy Project	$ 5.06
Abecedarian Early Childhood Intervention	$ 3.78

*The High/Scope Perry Preschool Project would amount to a total benefit of $265,000 per child over 40 years. Of this, benefit to society is approximately $200,000 in crime, education, and welfare. In addition, each child's *personal* benefit amounts to approximately $65,000.

The findings from these evaluations have demonstrated that early childhood programs produce greater savings than costs to society. In implementing early childhood programs, society must bear the cost of implementation as well as the cost of sending more children to institutions of higher education. However, society would save money in areas of labor force quality (lower costs for off-site training and adult education), crime (lower costs for prevention, police, prison upkeep, and rehabilitation programs), and social welfare (lower costs for abuse, domestic violence, health, and mental health prevention/interventions).[10,11] In addition, Table 2 lists several short-term and long-term social benefits that can be derived from early childhood programs.

Table 2: Social Benefits of Early Childhood Programs[12,13]

Short-term	**Long-term**
• Increase in child's cognitive and socio-emotional development • Increase in child's educational performance • Increase in potential for parents to learn positive parenting skills • Increase in parent involvement • Decrease in parental stress	• Increase in graduation rates • Higher educational attainment • Higher earnings/incomes in the workforce • Decrease in cases of abuse of neglect • Decrease in juvenile/adult crime • Decrease on welfare dependency • Decrease in cost of public education

It is important to note that the issue of quality is integral to early investment. Research in child development shows that it is not the emphasis on early mastery, but the emphasis on early commitment to education that matters more in fostering positive outcomes,[14] and it has been determined that high-quality programs provide a platform upon which this "early commitment to education" can be built. In particular, such programs would most benefit those who are at-risk, but would certainly benefit all in a more universal setting.[15]

Currently, most children in infant and toddler care attend child care centers that do not meet quality recommendations.[16] In addition, children in only 39% of child care settings offer "fair" or "a lot" of positive caregiving.[17] Results of cost-benefit analyses call greater attention to the fact that funding to expand high-quality early childhood programs has been lacking, and a greater investment in these programs will aid improvements in the structure and process of quality early learning, such as teacher training, education, and payment; accessibility,

comprehensiveness, and intensity of services; teacher-child ratios; and utilization of family-directed programs.[18,19]

In addition to providing support for investing in early childhood education and care, cost-benefit analyses provide support for investing in programs designed to aid family systems. Reynolds writes, "The findings of this [Chicago] study indicate that the long-term effects of early childhood intervention were traceable to a combination of school support, cognitive scholastic, and family support experiences."[20] While early childhood education and care programs are important in developing early learning and cultivating human capital, informal learning via families and communities are also crucial components to this development. Thus, programs that address children *and* family systems play a significant role in facilitating the early learning experience. Other research-proven cost-effective program examples include home visiting, parent education, and combinations of these with early childhood education and care programs.[21] These examples demonstrate that child development services for both children and families are crucial to cultivating positive outcomes.

Using Cost-benefit Analysis to Advocate for Babies, Toddlers & Their Families

As early childhood advocates, we too can harness cost-benefit analysis as an advocacy tool. By incorporating economic research into current advocacy strategies, advocates can build a solid foundation for investing in early childhood programs.

The body of research on human capital and investing in early childhood programs has grown considerably within the past ten years. Keeping abreast of current economic theory and early childhood program evaluations can lend strength and support to advocacy for infants, toddlers and their families. Some useful sources may include:

- Economic researchers such as James Heckman, Rob Grunewald, and Art Rolnick who have investigated human capital and its relation to societal costs and benefits.
- Cost-benefit studies of high-quality programs such as *The High/Scope Perry Preschool Study Through Age 40* or *Paths of Effects of Early Childhood Intervention on Educational Attainment and Delinquency: A Confirmatory Analysis of the Chicago Child-Parent Centers* that have thoroughly documented children who have participated in high-quality early childhood programs.
- Policy organizations including the National Institute for Early Education Research (NIEER), The RAND Corporation (specifically, articles written by Lynn Karoly), and the Committee for Economic Development (CED) that have tracked this area of research and written about its policy implications.
- The National Child Care Information Center, which maintains additional references regarding the relation of cost-benefit analysis to quality child care.

Using economic research can make an effective and lasting impression with policymakers. However, it should be noted that, when used as an advocacy tool, a cost-benefit analysis should be presented in conjunction with other supporting evidence, as not all programs will be able to monetize benefits.[22]

Including a cost-benefit analysis in the structure of a program evaluation can demonstrate a program's worth.[23] While incorporating a cost-benefit analysis may prove to be costly, collaboration between professionals and university researchers may offer additional support to the existing research on investment in early childhood programs. Moreover, program funding may be more accessible if cost-benefit evaluations are included in program proposals. In a 2001 research brief, Karoly documents a number of resources for implementing cost-benefit analysis or building cost-benefit analysis into a program design.[24]

Conclusion

Early childhood professionals have long described the benefits of investing in programs that aid young children and their families. Now, joined by human capital economists, support for early investment is even stronger. As advocates, we can use cost-benefit analysis to provide evidence for the benefits of investing early. Now is the time to use these tools and evidence to advocate for good health, strong families, and positive early learning experiences.

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