Economic Impact of Head Start

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Introduction

Head Start is an American preschool program for poor three- and four-year-old children. In 2007 the program spent about $7 billion U.S. on approximately 900,000 youngsters. The program began in the 1960s as part of President Johnson's "War on Poverty." The goal of the program was to bring poor children closer to the level of their more advantaged peers by the time they reached school entry. Head Start was to do this by providing a broad array of services, including medical screenings, nutritious meals and parent training in addition to early childhood education.

For many years, Head Start enjoyed widespread bi-partisan support, and steadily increasing funding levels. However, in recent years critics have attacked Head Start for two reasons. First, according to critics, there is little evidence that Head Start has a lasting impact on children. Second, some critics contend that this alleged lack of success occurs because Head Start does not focus enough attention on remedying academic deficits in preschool children, and that money spent on broad programming would be better focused on explicitly educational training.

Subject

Poverty is costly to affected individuals and also to society. Large amounts are spent on programs such as job training for adult high-school dropouts and programs to treat troubled juveniles. Head Start represents a particular model for early intervention aimed at preventing later problems. It is less expensive and less intensive than some other models of child-care based intervention that have been shown to be successful, such as Perry Preschool and Carolina Abcedarian.[1,2] For example, in 1998 it cost $5,021 U.S. to keep a child in a part-day Head Start program for 34 weeks a year, implying that it would cost approximately $10,000 U.S. to send a child for two years. The part-day Perry Preschool intervention cost $12,884 U.S. per child (in 1999 dollars) for a program that lasted eight months a year over two years. Since 20% of the children participated for only one year, the figures imply that the cost per child was approximately $7,000 U.S. per year, so that Head Start costs approximately 71% of what Perry Preschool cost.[3] Hence, much of the controversy about the program centers on whether this less intensive model is successful in the sense that its benefits outweigh its costs.

Problems

Head Start children are selected among the most disadvantaged children in their communities. In fact, when there is excess demand for Head Start places, Head Start operators are required to identify and select the most disadvantaged applicants. In addition, children are often referred to Head Start by other social agencies (such as Child Protective Services). Hence, we would expect that, other things being equal, Head Start children would have worse outcomes than other children in the absence of the program. Even if Head Start improves child outcomes considerably, outcomes for grantees may still lag behind those of the average child. This selection issue makes it impossible to identify the effects of Head Start from simple comparisons of enrolled and other children.

Research Context

The U.S. government is currently conducting an experimental evaluation of Head Start. However, most previous analyses have had to rely on non-experimental designs. For example, Oden et al.[4] use matched controls. Currie and Thomas[5] and Garces, Thomas and Currie[6] compare Head Start children to their own siblings, using large-scale nationally representative data sets. Ludwig and Miller[7] use the fact that in the 1960s the poorest counties were more likely to receive Head Start funds than slightly better-off counties in order to identify the effects of Head Start spending on child outcomes.

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Key Research Questions

1. Does Head Start have a lasting positive impact on children, and in what domains?
2. If there are lasting benefits, are they of sufficient value to offset the costs of Head Start?
3. Are benefits different for different subgroups of the population, such as African-Americans or non-native English speakers, and if so, why?
4. Do program effects "fade out" over time, and if so, why?
5. Given that there is local variation in Head Start programs, what are the attributes of more successful programs compared to less successful programs?
6. Can the Head Start model be successfully extended to younger children?

Recent Research Results

Prior to the current experimental evaluation, the most recent federal evaluation of Head Start was the Family and Child Experiences Survey.[8] Unfortunately, that study had no control group. It focused on documenting improvements in the skills of Head Start children over the course of a year in the program. Most children did show gains in social skills, but since these gains could not be compared to any national norms, it is unclear what to make of the finding; after all, most preschool children would be expected to improve their social skills over the course of a year. The cognitive gains of the Head Start children were assessed by comparing them to national norms. The findings were consistent with those of many other studies that have documented short-term gains to some cognitive skills, particularly to verbal skills.

Initial results from the ongoing experimental evaluation of Head Start suggest that after one year, the program has a positive impact on achievement tests on the order of .1 to .2 standard deviations. Specifically, positive effects were found for letter-word identification, pre-writing and vocabulary scores, and for the frequency with which parents read to children.[9] There were no significant effects on oral comprehension or mathematics skills. Previous studies[3,10,11] also found that Head Start had a positive short-term.

Few studies have examined the effects of Head Start on longer-term outcomes. In the first such study, Currie and Thomas[5] use data from the National Longitudinal Survey of Youth (NLSY) to compare children who had attended Head Start to their own siblings who had not attended. They find that Head Start attendance closed about 1/3 of the gap in vocabulary test scores between

the Head Start children and average children, when these children were measured at age five. Thus, Head Start had a sizeable positive effect, but did not meet bring poor children up to the level of the average child. They also find that the effect of Head Start faded out for African-American students after three or four years (a finding consistent with previous experimental evidence), but that it was maintained among other students and that it also led to a reduction in grade retention among these other students. Finally, they find that Head Start improved immunization rates among preschool children, providing some evidence that the health services provided by Head Start are effective.

Lee and Loeb[12] show that children who attend Head Start often go on to attend schools of poor quality. Currie and Thomas[13] show that this effect is race-specific: African-American children who attend Head Start go on to attend schools of significantly lower quality than other African-American children, but the same is not true among whites. They conjecture, therefore, that fade-out among black children may be caused by exposure to poor schools post-Head Start. Currie and Thomas[14] examine the effects of Head Start among Hispanics (using similar data and methods they had used before[5]) and find large positive effects, particularly among children whose mothers did not speak English in the home.

Garces, Thomas and Currie[6] conduct an analysis of longer-term outcomes using data on sibling pairs from the Panel Study of Income Dynamics. They find that in pairs of young adults in which one attended Head Start and the other did not, the Head Start sibling is more likely to have completed high school and to have attended college if white, and less likely to have ever been booked or charged with a crime if black.

More recently, Deming[15] uses much the same data and methodology as Currie and Thomas[5] and a slightly more recent cohort of children to re-examine longer-term gains of Head Start. He finds that the Head Start fills about one third of the gap between the bottom income quartile and the median child in the sample in terms of a summary index of outcomes. It is notable that he also finds “fadeout” in the effects of Head Start on test scores of African-American children and particularly disadvantaged children. Yet, these children experience the largest benefits in terms of non test-score outcomes including grade repetition, learning disabilities, high school graduation, “idleness”, and health. Deming argues that Head Start provides 80% of the benefits of more intensive programs at 60% of the cost.

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It is important to note that the comparison of sibling pairs is likely to under-estimate the benefits of Head Start for at least two reasons. First, random response error will lead to greater attenuation of estimated coefficients in this type of model than in standard ordinary least squares models. Second, in families in which one child attended Head Start and the other did not, the difference is often related to changes in family circumstances. That is, the Head Start child is more likely to have been exposed to poverty and single-parenthood during the three- to five-year-old period than the non-Head Start sibling. If poverty during early childhood has negative effects (see Duncan et al.[16]), then we would expect the Head Start sibling to have worse outcomes than the other sibling because of the intra-family difference in circumstances. In these circumstances, the finding of positive Head Start effects is even more compelling.

Carneiro, Ginja, and Meghir[17] use the NLSY data but a different methodology to examine the effects of Head Start on adolescents. They use the fact that income cutoffs create discontinuities in eligibility for Head Start to identify its effects. They find that Head Start reduces the probability of grade repetition, behaviour problems and obesity in 12 to 13 year old children, and also reduces criminal behaviour and depression at ages 16 and 17.

Oden et al.[4] conducted a 17-year follow-up study of 622 young adults in Colorado and Florida who were born in poverty. Children who attended Head Start were matched to children from the same areas who had not attended. This study found that Head Start participants tended to do better than non-Head Start participants, although most differences were not statistically significant. However, the relatively small positive effects in this study may be due to the fact that the Head Start children were negatively selected even relative to other poor children in their areas. Matching treatments and controls on a few observable characteristics does not eliminate the possibility that controls and treatments differ along unobserved dimensions.

The Chicago Child-Parent Centers is an early intervention that began with an enriched preschool and followed up with an enriched curriculum for school-aged children up to age nine. This intervention is similar to providing a Head Start-like preschool program and then improving the school subsequently attended by the Head Start children. Reynolds et al.[18] followed the program’s children to the end of high school, comparing them to a group of children from the same areas who had not attended the program. They find beneficial effects on delinquency, crime, and a skills test. They include a simple cost-benefit analysis, which suggests that a dollar spent on the program saved $3.69 in future costs to government.

Ludwig and Miller[7] use a “regression-discontinuity” design to look at the effects of Head Start. When Head Start was introduced, the poorest 300 counties were given special assistance in applying for Head Start funds. This means that children in these counties were more likely to attend Head Start than children in slightly better-off counties that did not receive the application assistance. Ludwig and Miller find that the increased availability of Head Start was associated with reductions in mortality among five- to nine-year-old children in these counties. They also found increases in the probability of completing high school and having attended some college among cohorts that were affected. Interestingly, the effects found for African-Americans are generally larger than the effects found for whites in this study.

Currie and Neidell[19] match data on Head Start programs to child-level NLSY data. They find that programs with higher per-capita Head Start spending tend to have better outcomes than other Head Start programs, and that programs that spend more on child-oriented activities (such as education, health and nutrition) tend to have better child outcomes than those that spend relatively larger portions of their budgets on other activities (such as parent training). They do not, however, examine parent outcomes.

Several recent evaluations examine the effect of Early Head Start. The Early Head Start (EHS) program was created in 1994. The proportion of Head Start funding designated for EHS has grown steadily since then, reaching 10% in 2002.[20] EHS is organized and evaluated according to the same performance standards as the Head Start Program. Perhaps because of controversy regarding the wisdom of encouraging mothers to place infants in child care, an evaluation component was built into EHS. Seventeen sites were chosen to be part of the national evaluation. At each site, randomly assigned treatments and controls are being tracked. As of age three, the effects appear to be very positive. The EHS children have significantly higher scores on several tests of cognitive development, exhibit less aggressive behaviour and less negative behaviour towards parents during play, and are also better able to devote sustained attention to an object during play. It will be very important to see how well these gains are maintained over time.

Conclusions and Implications

A great deal still remains to be learned about Head Start. For example, the program remains a “black box,” and there is more heat than light on the subject of what specific measures would most improve Head Start programming. Moreover, it is not clear how concerned we should be about fade-out in the effects on cognitive test scores, given positive results regarding outcomes

such as schooling attainment. Head Start has long been billed as an “investment” in children. We need to take this paradigm seriously by investigating the long-run as well as the short-term benefits of Head Start.

There are increasing numbers of recent studies that have done this, and show that the program does have positive long-term effects on children. Rough attempts to quantify these benefits and weigh them against the costs suggest that the program is cost-effective in that the benefits greatly exceed the costs of the program. Moreover, these types of calculations typically take a relatively narrow perspective and include only cost savings to government as benefits. Many types of benefits (such as improvements in parents’ lives) have received scant attention in the literature, suggesting that a full accounting might yield an even more favourable assessment of Head Start.

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