Whitmore Schanzenbach, Diane

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Understanding the Effects of Early Investments in Children

Diane Whitmore Schanzenbach

A growing economics literature is seeking to understand the effects of early childhood influences on later life outcomes. While much recent work explores the effects of health measured at birth, my work and that of others demonstrates the importance of events in early life—but after birth—on long-term outcomes.

A recent review by Douglas Almond and Janet Currie concludes that child and family characteristics measured at school entry explain much of the variation in adult outcomes as factors such as years of education that are more typically studied by economists.1 James Heckman argues that the rates of return to human capital investment in disadvantaged populations are highest in early life.2

In a series of studies, my coauthors and I have estimated the long-term impacts of interventions in early life. We find that there are promising interventions for children in school settings and through social safety net programs that impact outcomes measured in later adulthood and into adulthood.

Early Life Interventions and Adult Economic and Health Outcomes

The food stamp program is a central part of the U.S. safety net, and provides vouchers to participants that can be used to purchase food at any grocery store. Participation in the food stamp program increases the total resources available to a family, pushing out the budget constraint and raising consumption levels among participants. When the program was introduced in the 1960s, it was rolled out slowly, over a 13-year period, on a county-by-county basis. Hilary Hoynes, Almond, and I investigate the impact of this safety net transfer by exploiting this variation across geography and time of the introduction of the program.

One of our first studies found that babies who were in utero when food stamps were introduced in their county weighed more at birth.3 But the availability of food stamps at other points during childhood may also have had an impact. In our recent work, we use the Panel Study of Income Dynamics (PSID) to test whether children born prior to the introduction of food stamps in their county also benefited from the program.4 We start with the cohort of children that we initially observe in the 1968 PSID, follow them into adulthood, and observe their completed education, earnings, and detailed health outcomes such as general health status, height and weight, presence of chronic conditions, and work/activity limitations. We find that individuals with access to food stamps before age five had measurably better health in adulthood, exhibiting improved overall health and lower rates of obesity, diabetes, and high blood pressure.

For women, we also find that childhood access to the food stamp program increases economic self-sufficiency in adulthood. Those with access to food stamps as children were more likely to graduate from high school, earn more, and rely less on the social safety net as adults than those who did not. Interestingly, we find positive but diminishing impacts of food stamps by the child’s age when the program was introduced in the child’s county. These findings suggest that there are important long-term returns to families from lower and higher socioeconomic status families alike. For children from lower-SES families, preschool enrollment increased by 20 percentage points, primarily driven by children who otherwise would not have attended preschool enrolling in public programs. For children from higher-SES families, preschool enrollment increased by 11 to 14 percentage points. Among these higher-SES children, we measure substantial crowd out due to the universal preschool program increase.

We view these results as highly consistent with the broad patterns in the preschool literature, with highest economic returns coming from programs that are both high quality and highly targeted, and returns diminishing as the students’ counterfactual experiences in the absence of a public preschool program increase.

Expanding Access to Preschool

Another promising intervention in early life is access to high-quality educational environments. In his 2013 State of the Union address, President Obama proposed universal access to preschool education in the United States. The $75 billion proposed “Preschool for All” initiative calls for dramatic increases in the investment of public preschool programs and in the quality of these programs nationwide.

The Preschool for All initiative shares many characteristics with the state universal preschool programs that have been offered in Georgia and Oklahoma since the 1990s. While high rates of return have been documented for preschool programs targeted to children of low socioeconomic status, less is known about the impacts of universal programs.5 Elizabeth Cascio and I draw together data from multiple sources to estimate the impacts of these “model” state programs, the effects of enrollment and a broad set of short- and longer-term family and child outcomes.6

Using data from the Current Population Survey’s October supplement on school enrollment, we find that the universal state programs have increased preschool attendance of children achieving from lower and higher socioeconomic status families alike. For children from lower-SES families, preschool enrollment increased by 17 percentage points, primarily driven by children who otherwise would not have attended preschool and other families effectively received sizable income transfers from the program, their academic achievement not having improved in either grade.7

We view these results as highly consistent with the broad patterns in the preschool literature, with highest economic returns coming from programs that are both high quality and highly targeted, and returns diminishing as the students’ counterfactual experiences in the absence of a public preschool program increase.

Long-run Impacts of Early Elementary School Experiences

Another widely-discussed early-life intervention is improvement in the quality of schooling for students in the early elementary grades. Project STAR was a randomized experiment conducted in Tennessee in which over 11,000 students and their teachers were assigned to classrooms that varied in class size and other measures of quality. The experiment included one cohort of children that started kindergarten in the 1985–86 school year. By now, the students in the original cohort have become adults, and researchers have been able to use a variety of administrative databases to follow their progress to determine whether the intervention had meaningful lasting impacts.

Susan Dynarski, Joshua Hyman, and I measure the impact on educational attainment in adulthood of being randomly assigned in grades K-3 to a small class (with on average 15 students) instead of a larger class (with on average 22 students).8 Using a data match obtained from the National Student Clearinghouse, we find that assignment to a small class increases the probability of attending college by 2.7 percentage points.
How Powerful Are Fiscal Multipliers in Recessions?

Alan Auerbach and Yuriy Gorodnichenko

In policy and academic discussions of recent years, few topics have generated more interest than fiscal multipliers, which measure how much a dollar of increased government spending or reduced taxes raises output. Indeed, the magnitude of fiscal multipliers is at the core of debates about whether government or fiscal stimulus could be a powerful tool to stabilize output.

With a quickly shrinking economy in late 2008 and early 2009, existing estimates of the average effect of fiscal stimulus were potentially misleading. For example, old-style Keynesian models emphasized that increased government spending might stimulate output and have little effect on prices in times of slack but could have an inflationary effect with low output response if the economy were close to full employment. More recent theoretical work made a similar prediction in the context of a binding zero lower bound on nominal interest rates, based on the view that a fiscal stimulus would not lead to an increase in interest rates in such a circumstance. We therefore wanted to know and what expectations about fiscal variables are in recession, possibly allowing us additionally to detect sustained impacts on non-cognitive skills, suggesting a possible mechanism for the long-term effects. The impacts of quality class are similar for students who entered the experiment later, suggesting that a better classroom environment from ages five through eight can have substantial long-term benefits.

In both Project STAR papers, we find that the actual long-run impacts were larger than what would have been predicted based on the short-run test score gains. This finding is consistent with a growing body of research on early-life interventions, and raises challenging evaluation problems. Policymakers often rely on short-run outcomes such as standardized test scores to gauge the effectiveness of educational interventions. But, as suggested in our research, if these measures are systematically underyating the long-run impacts of early childhood programs, over-reliance on short-run outcomes may lead to abandonment of some policies that would pass a long-term cost-benefit analysis.

In conclusion, we find that yardstick classroom affects are significant and provide insights into how high-quality classrooms and teachers affect the current as well as the future earnings of students.

References


