The Safety Net as an Investment

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By Hilary W. Hoynes (University of California, Berkeley) and Diane Whitmore Schanzenbach (Northwestern University and The Hamilton Project)

The Supplemental Nutrition Assistance Program (SNAP) plays an important role in the lives of low-income children. After accounting for underreporting in the data, researchers have found that in 2012 the program lifted 4.9 million children out of poverty — and also lifted more than 2.1 million children out of deep poverty, defined as having an income level less than half of the poverty line (Sherman and Trisi, 2015). In addition, two-thirds of total SNAP benefits go to families with children. A growing body of evidence suggests it is particularly important to protect children from deprivation. In recent work joint with our colleague Douglas Almond of Columbia University, we find that SNAP's impact on children is large and the benefits endure into adulthood, especially when implemented at key developmental points in infancy and childhood.

A large literature in economics and medicine has pointed to the importance of childhood as a time of investment in future outcomes, documenting the importance of childhood events on subsequent adult outcomes such as earnings, health, and mortality. One strand of research documents the importance of high-quality preschool education on later life outcomes. Research from Nobel Laureate James Heckman and others show that attending a high-quality preschool increases lifetime earnings, reduces the likelihood of criminal activity, and improves health (Heckman, 2006; Heckman et al., 2010; Conti et al., 2015). Early-life access to adequate levels of food and other health inputs has been shown to impact subsequent adulthood outcomes. Evidence from diverse settings ranging from children exposed to war, disease, or famine points to deprivation in childhood being a cause of adults' chronic health conditions (Almond, 2006; Schulz, 2010).

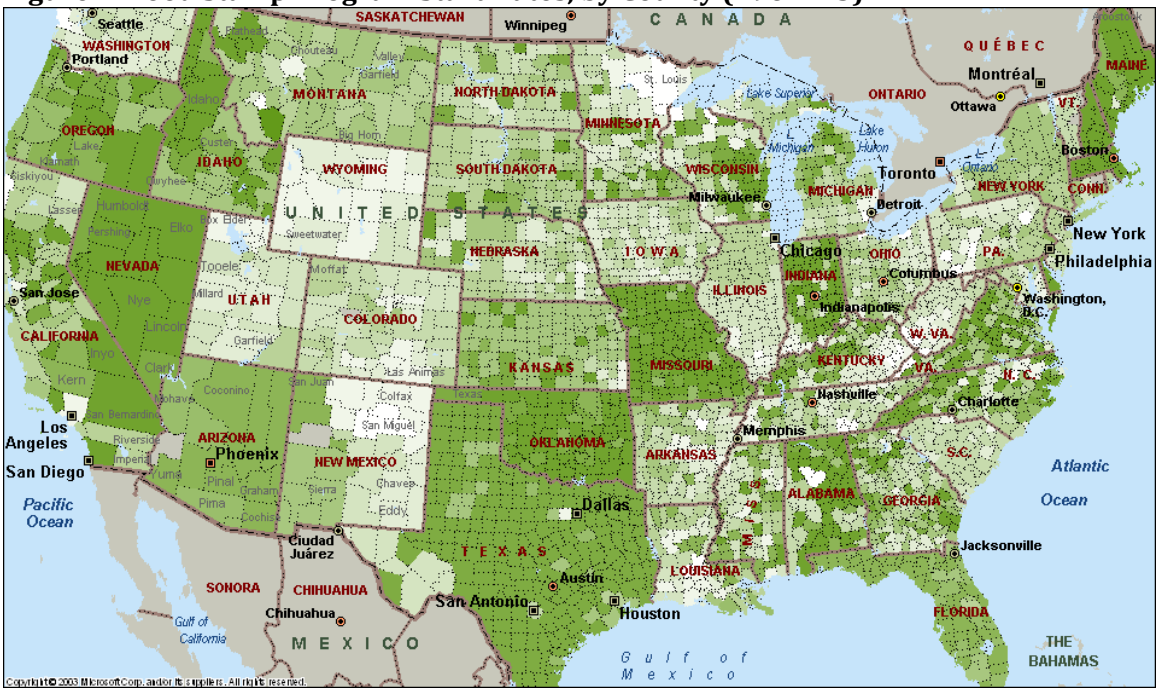
Measuring the impact of SNAP

A key challenge to measuring the impact of safety net programs like SNAP is finding a strategy that will allow the researcher to separate causation from correlation. SNAP is designed to supplement a family's food budget when they have an income shortfall, so that during a negative income shock, such as a job loss, a family can continue to purchase adequate food. By design, then, families with high levels of poverty or food insecurity receive SNAP benefits. As a result — because SNAP serves people when they need the program — it is empirically difficult to disentangle the (presumably positive) impact of SNAP from the (presumably negative) impact of the circumstances that made a family eligible for the program. For example, Bitler (2015) finds that SNAP recipients are significantly more likely to be blind or have other vision problems — a condition that is not likely to have been caused by SNAP, but is more likely correlated with other factors that have driven the person's need to participate in the program.

The researchers' challenge, therefore, is to find an aspect of participation that allows them to separate the cause-and-effect relationship between SNAP participation and outcomes of interest such as food security, nutritional quality, and so on. One common strategy is to leverage variation in the way a program functions across locations or over time. This approach has been used successfully in evaluations of cash welfare programs, unemployment insurance, and other safety net programs. Estimating the impact of SNAP has been notoriously difficult, though, because the program has been relatively uniform across states and over time. As a result, it has been hard for researchers to disentangle SNAP's impact from the effects of recipients' other economic circumstances.

In a series of recent papers, we overcome this fundamental challenge in estimating the impact of SNAP by using variation from the gradual, county-by-county introduction of the program in the 1960s as part of the War on Poverty. We use variation across counties within states to estimate the impact of the program — then called the Food Stamp Program (FSP) before it was renamed SNAP in 2008 — on a variety of outcomes. Since the program was introduced 50 years ago, the individuals who were children at its introduction are now adults, and we can statistically follow their progress in order to estimate the long-term impacts of access to SNAP during childhood on how much education they completed, as well as their earnings and detailed health outcomes.

Figure 1: Food Stamp Program Start Dates, by County (1961–75)



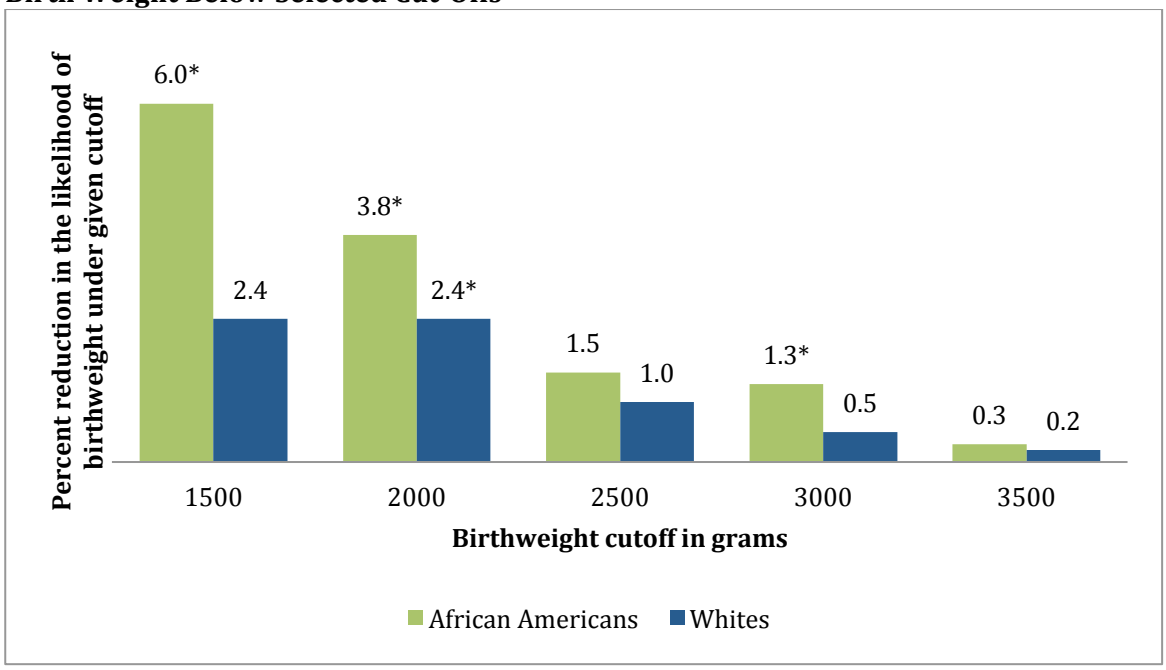
Note: Authors' tabulations of Food Stamp administrative data (U.S. Department of Agriculture, various years). The shading corresponds to the county FSP start date, where darker shading indicates a later-date county implementation.

Figure 1 demonstrates the variation in the introduction of the Food Stamp Program, with lighter-shaded counties adopting the program earlier than darker-shaded ones. The program started out in a handful of pilot counties in 1961–63, and then was made permanent by the 1964 Food Stamp Act, which gave local areas the authority to start the program in their county, subject to budgetary limits. Between 1965 and 1975, the program was rolled out in counties across the country. As is shown on the map, two neighboring counties within the same state often adopted the program in different years. As a result, we can compare children who were born in the same year — for example, 1967 — in two different counties in the same state, who were exposed to the program at different times. To strengthen the comparison, we also compare these differences to differences among children who are older (or younger) from the same two counties. This allows us to control for the effects of county of residence, birth year, and a host of other potentially confounding effects, and statistically isolate the impact of the then-Food Stamp Program, now known as SNAP. For more details, see Hoynes and Schanzenbach (2009).

SNAP's positive impacts start before birth

In the short run, we find that SNAP (then called the Food Stamp Program) improves infant health (Almond et al., 2011). In particular, when an expectant mother has access to the program during her pregnancy's third trimester, it improves her baby's birth weight. The improvements are largest in more vulnerable populations, such as babies born in high-poverty counties, and those babies with the lowest birth weights. The study results are summarized in Figure 2 below. The figure shows the impact that SNAP (the-then Food Stamp Program) has on improving infant health. Each bar shows the reduction in the likelihood that a baby was born below a given birth weight due to the mother having access to the program during the third trimester of her pregnancy. Some important thresholds are 1,500 grams (approximately 3 pounds and 5 ounces), below which a baby is considered "very low birth weight," and 2,500 grams (approximately 5 pounds and 8 ounces), below which a baby is considered to have "low birth weight." As shown in the figure, African American and white babies are respectively 6 percent and 2.4 percent less likely to be born with very low birth weight (less than 1,500 grams) after the introduction of the program in the mother's county of residence. The figure also shows that the improvements in birth weight are largest among the lowest-birth-weight babies.

Figure 2: Impact of In Utero Exposure to Food Stamps: Reduction in Likelihood of Birth Weight Below Selected Cut-Offs



Source: Almond, Hoynes, & Schanzenbach (2011).
Note: * denotes estimate statistically significantly different from zero.

We then turned to examine whether the impacts of childhood access to SNAP persisted into adulthood. This could occur through a variety of mechanisms. For example, a host of studies have documented that birth weight has downstream impacts on school achievement, subsequent health, and adult economic outcomes (Currie, 2009). Since the program improved birth weight, we would expect some downstream improvements to follow. But the benefits may come through other pathways, potentially including other health improvements, reducing family stress, or being able to pay more attention in school because of reduced hunger.

SNAP's impacts persist through adulthood

To investigate the impacts of childhood access to SNAP (then called the Food Stamp Program) on adult outcomes directly, we used the research strategy described above based on the timing of the introduction of the program, and measured outcomes using data from the University of Michigan's Panel Study of Income Dynamics (PSID). The dataset has followed a large number of individuals and their offspring from the 1960s through the present day, and measures a variety of factors, including where they live, their earnings and labor market activity, and a variety of aspects related to their health status. As a result, we could observe a host of economic and health outcomes of individuals in their 30s to 50s, who had differential access to the program during their childhoods in the 1960s and 1970s.

To summarize adult health status, we combined measures of obesity, body mass index, and presence of chronic conditions such as diabetes and high blood pressure into a measure of health status we call the "metabolic syndrome index." Here, a lower value represents better health. Figure 3 presents estimated impacts of accessing SNAP at a given age. We find that individuals with access to food stamps before age 5 had measurably better health in adulthood, with impacts larger for younger children. In particular, we find that if SNAP was introduced prior to a child's birth, their subsequent adult health improved by 0.4 standard deviation units, as measured by the index we constructed. Note that we find no long-term health impacts for children who were first exposed to the program when they were older, underscoring the importance of intervening in early childhood.

Figure 3: Effects of Introduction of Food Stamp Program on Metabolic Syndrome Index, by a Child's Age at Introduction

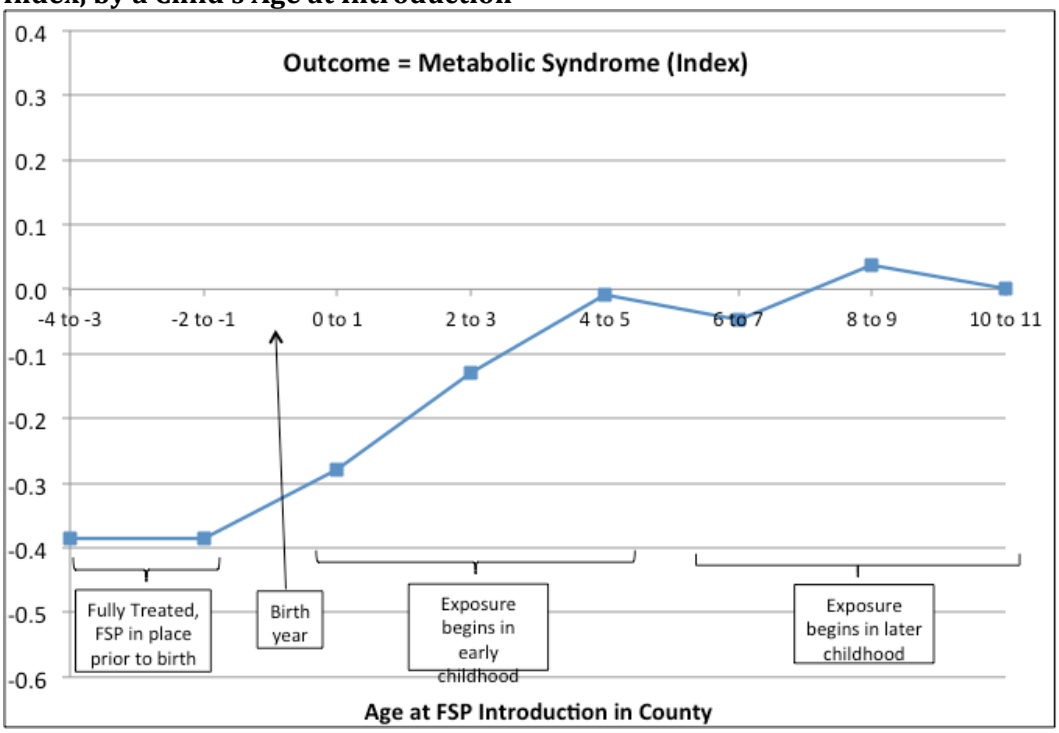
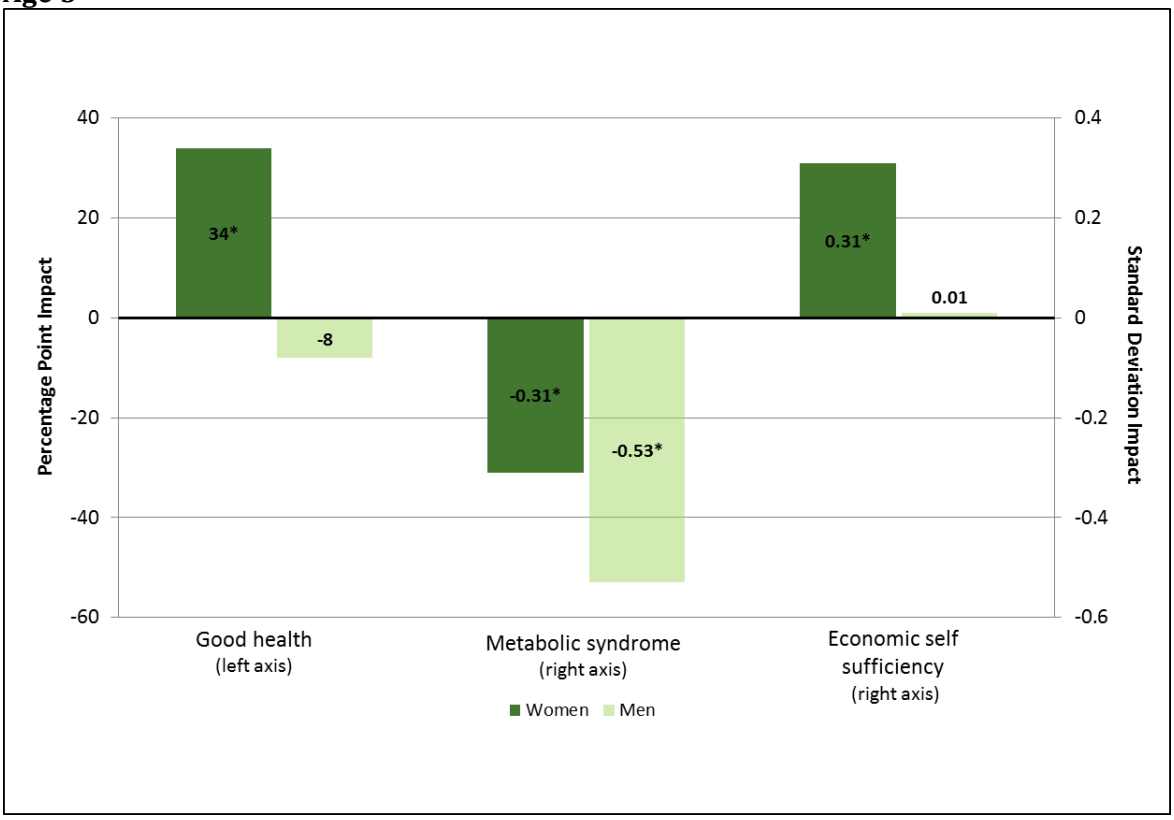


Figure 4 summarizes the long-term impacts of exposure to SNAP (the then-Food Stamp Program) as a child, separately by gender. The magnitudes of the results represent the impact of having access to Food Stamps from the time of a child's conception through age 5. We find sizeable improvements in health as measured by the metabolic syndrome index for

both men and women. Women also are substantially more likely to self-report that they are in good health. We also find that, for women, childhood access to SNAP increases economic self-sufficiency in adulthood. Those with access to the program 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.

Figure 4: Long-term Impacts of Exposure to Food Stamps from Conception Through Age 5



Source: Hoynes, Schanzenbach, & Almond (forthcoming).
Note: * denotes result statistically significantly different from zero; estimates are for high-impact sample where the head of household had less than a high school education.

Policy lessons

There are several important lessons from these studies for policy today. First, the benefits of SNAP are both measurable and accrue across a broader range of outcomes than previously documented. Not only does the program improve food security in the short-run, but it also helps prevent the negative, long-term, and lasting effects of deprivation during childhood.

Second, the benefits accrue to more than just the program recipients directly, but the benefits also pay out to taxpayers more generally. The long-term improvement in health due to the program implies a decrease in future taxpayer costs for health care. Additionally, by increasing self-sufficiency, SNAP today can reduce the future costs of the safety net down the line and also increase tax revenues.

Our findings suggest that the SNAP benefits that go to children are better thought of as an investment rather than as charity.

References:

Almond, D. (2006). Is the 1918 influenza pandemic over? Long-term effects of *in utero* influenza exposure in the post-1940 U.S. population. *Journal of Political Economy*, *114*(4), 672–712.

Almond, D., Hoynes, H. W., & Schanzenbach, D. W. (2011). Inside the War on Poverty: The impact of food stamps on birth outcomes. *The Review of Economics and Statistics*, *93*(2), 387–403.

Bitler, M. (2015). Health and nutrition effects of SNAP: Selection into the program and a review of the literature. In J. Bartfeld, C. Gundersen, T. Smeeding, & J. Zilliak (Eds.), *SNAP Matters: How Food Stamps Affect Health and Well-Being*. Palo Alto: Stanford Press.

Conti, G., Heckman, J. J., & Pinto, R. (2015). The effects of two influential early childhood interventions on health and healthy behaviors. NBER Working Paper No. 21454, August 2015.

Currie, J. (2009). Healthy, wealthy, and wise: Socioeconomic status, poor health in childhood, and human capital development. *Journal of Economic Literature*, *47*(1), 87–122.

Gluckman, P. D., Hanson, M. A., Cooper, C., & Thornburg, K. L. (2008). Effect of in utero and early-life conditions on adult health and disease. *New England Journal of Medicine*, *359*(1), 61–73.

Heckman, J. J. (2006). Skill formation and the economics of investing in disadvantaged children. *Science*. 312(5782): 1900–1902.

Heckman, J. J., Moon, S. H., Pinto, R., Savelyev, P. A., & Yavitz, A. (2010). The rate of return to the HighScope Perry Preschool Program. *Journal of Public Economics*, *94*(1), 114–128.

Hoynes, H. W., & Schanzenbach, D. W. (2009). Consumption responses to in-kind transfers: Evidence from the introduction of the Food Stamp Program. *American Economic Journal – Applied Economics*, 1(4), 109–139.

Hoynes, H. W., & Schanzenbach, D. W. (2015). U.S. food and nutrition programs. Forthcoming in R. Moffitt (Ed.), *Means Tested Transfer Programs, Volume II.* Chicago: University of Chicago Press.

Hoynes, H. W., Schanzenbach, D. W., & Almond, D. (2015). Childhood exposure to the Food Stamp Program: Long-run health and economic outcomes. Forthcoming, *American Economic Review*.

Schulz, L. C. (2010). The Dutch Hunger Winter and the developmental origins of health and disease. *Proceedings of the National Academy of Sciences*, *107*(39), 16757–16758.

Sherman, A., & Trisi, D. (2015). Safety net more effective against poverty than previously thought. Washington, D.C.: Center on Budget and Policy Priorities. Retrieved from http://www.cbpp.org/sites/default/files/atoms/files/5-6-15pov.pdf.