



Grantmakers
for Children,
Youth & Families

EITC
Funders Network

GIST
Grantmakers Income
Security Taskforce

research

policy

practice

Insight

Fall 2015



Two Generation
Approaches to
Poverty Reduction
and the EITC

A Review of Current CYF Topics and Issues

Earned Income Tax Credit and Educational Outcomes

By Gordon B. Dahl, University of California San Diego

Introduction

One in five children in the U.S. live in families with incomes below the official poverty line. This fraction jumps to nearly one in three children when it includes families earning no more than 150% of the poverty threshold. These poverty rates are almost 50% higher compared to individuals age 18 to 64 and double that of those age 65 and older (U.S. Census Bureau, 2014). Given the large number of children growing up in low-income households, an important question is whether public policies aimed at reducing poverty can make a difference in a child's life. This article focuses on the Earned Income Tax Credit (EITC), which is currently the largest antipoverty program in the U.S.

The EITC is specifically targeted to bolster the finances of working families with children at the bottom of the income distribution. For example, a single mother with two children who earned \$15,000 in 2014 would have received an EITC benefit of \$5,450, which would push her family above the poverty line. In 2013, the EITC lifted 3.2 million children out of poverty and aided another 7.8 million children in low- to moderate-income households (Center on Budget and Policy Priorities, 2015).

Does the EITC Improve Educational Outcomes?

While there are many potential benefits of the EITC, and diverse possible consequences of growing up in poverty, this article focuses specifically on the relationship between EITC receipt and educational outcomes for children in the U.S. There are many reasons to think that poverty could adversely affect a child's academic success, and that income transfers through the EITC could play an important role in ameliorating substandard outcomes. Parents in poverty have higher levels of stress, depression, and poor health (Evans and Garthwaite, 2013; Milligan and Stabile, 2011). These pressures could limit parents' ability to nurture and support their children's academic development. Indeed, children from poor families lag behind their peers in verbal development and have more behavioral problems in the classroom (Parker, Boak, Griffin, Ripple, & Peay, 1999). Extra income has the potential to improve the home environment and a child's ability to succeed in school. Income transfers could also aid a child's development if extra money is spent on child-centered goods such as health care, books, quality daycare, or moving to a neighborhood with better public schools (Hoynes, Miller, and Simon, 2015; Jones, Milligan, and Stabile, 2015).

Until recently, however, the effects of poverty on children's educational achievement were unclear. Simple correlations reveal

that low-income students perform worse on standardized tests, are more likely to drop out of high school, and are less likely to attend and complete college (see, for example, Duncan and Murnane, 2011). But whether or not these observed associations are caused by low income has been questioned. The main concern is that children growing up in poor households may have worse home environments or other characteristics that the researcher does not observe. These omitted variables may be part of the reason for substandard achievement and may continue to affect a child's development even if extra income were transferred to these poor families. Looking at changes over time within a family is also problematic, as changes in family income could be associated with parental job loss, illness, or moving to a new neighborhood — all factors that could independently impact a child's performance in school.

Recent research leveraging the EITC has helped to clarify the debate, providing convincing evidence that income transfers from the EITC improve children's academic outcomes in both the short and long run. The EITC is a useful policy to examine how extra income can help children growing up in poverty. Changes to the EITC schedule translate into unexpected boosts to family income as well as an inducement for some parents to work additional hours (and therefore further increase family income). The emerging consensus is that the extra income provided by the EITC to low-income families has positive and sizable effects on children's academic achievement from as early as elementary school all the way up to college.

Short-Run Effects on Test Scores

Research by Dahl and Lochner (2012) used expansions in the federal EITC in the late 1980s and mid-1990s as exogenous sources of variation in family income. The largest of these changes increased the maximum EITC benefit by roughly \$2,900 (inflation adjusted to year-2015 \$), which translated into as much as a 20% increase in income for some families. Not only did the maximum benefit increase, but the income range that qualified for EITC payments also expanded. The idea underlying their estimation strategy is that the expansions affected families differentially based on the family's income before the EITC payment schedules increased in generosity. Their approach isolates changes in predicted income solely due to changes in the EITC schedule over time, avoiding the problem that shocks to family earnings might also be correlated with other factors that could influence child achievement.

Intuitively, if family income affects a child's cognitive achievement, then one should observe relative improvements in the test scores of children from the low- and moderate-income



families who benefited most from the EITC expansions. This is exactly what Dahl and Lochner found. Using a panel dataset of roughly 4,400 children from the National Longitudinal Survey of Youth (NLSY), they found that current income has a large impact on a child's academic performance. An extra \$1,000 in EITC income (year-2015 \$) increases combined math and reading test scores by 4.4% of a standard deviation. While these estimates are modest, they are encouraging. To help place this magnitude in perspective, the gap in test scores between children in families with more than \$78,000 in annual income (the 75th percentile) and children in families with less than \$30,000 (the 25th percentile) is roughly 75% of a standard deviation. A \$5,500 boost to income (the maximum EITC benefit during the sample period, adjusted for inflation to 2015 \$) reduces this test score gap by almost a third. Dahl and Lochner found larger effects for children growing up in the most disadvantaged families, boys, minorities, and younger children. Some of the increase in income could be driven by increased labor force participation of mothers. In terms of the dynamics of family income, they found that contemporaneous income has the largest impact, with smaller effects from past income, suggesting that recurring income transfers are needed to sustain higher achievement.

Is there a way to translate these short-term test score gains into improvements in future earnings? Chetty, Friedman, and Rockoff (2011) provide one approach. They first used Internal Revenue Service tax data combined with administrative data from a large school district to estimate the effects of the EITC and the Child Tax Credit (CTC) on child test scores in grades three to eight. They found similarly sized effects as Dahl and Lochner. Chetty et al. combined this with information on how test score increases associated with having a better teacher improve the probability of college attendance and earnings. They concluded that each extra dollar spent on the EITC and CTC increases the net present value of earnings by a little more than one dollar, due to the test score gains.

The emerging consensus is that the extra income provided by the EITC to low-income families has positive and sizable effects on children's academic achievement from as early as elementary school all the way up to college.

Long-Run Effects on Educational Attainment

An important question is whether the EITC has positive effects on educational outcomes later in life and not just when children are young. Three working papers discussed below suggest the answer is yes. These researchers identify two primary mechanisms by which EITC transfers could aid high-school

completion and college enrollment. First, sustained income transfers when children are young could improve school performance and therefore high-school completion and college readiness. Second, the EITC could serve as a form of financial aid to attend college. An important feature of the EITC is that for youth age 19 to 23 years old, it is a conditional cash transfer. To be a qualifying child for EITC payments, a youth must be either (i) younger than 19 or (ii) a full-time student and younger than 24. So, extra EITC income could both relax credit constraints and serve as an incentive to attend college.

"The EITC is the biggest return we get. It's impacted us because when it comes to my kids, that tax refund comes from my kids, so I give back to my kids. By that I mean they have a savings account and a part of the return goes into their college fund. I started that early so they can be prepared so it's established for them and things can be easier."

— Mother of two school-age children

Micheltmore (2013) used the differential timing and generosity of state EITC programs to study educational attainment. Twenty-six states and the District of Columbia currently offer their own EITC benefits on top of the federal EITC schedule. Except for Minnesota, states calculate eligibility and benefits as a percentage of the federal EITC credit, with the percentage ranging from a low of 3.5% to a high of 40%. Micheltmore used parents' education level as a proxy for EITC eligibility, and compared child outcomes before and after changes to state EITC benefits relative to children in non-implementing states. Using data from the Survey of Income and Program Participation, she found that a \$1,000 increase in the combined state and federal EITC maximum (year-2015 \$) results in a 1-percentage-point increase (i.e., a 4% increase) in full-time college enrollment among 18- to 23-year-olds and a 0.3-percentage-point increase (i.e., a 10% increase) in completion of a bachelor's degree. The effects are concentrated among children who were first exposed to state EITCs at younger ages.


Maxfield (2013) analyzed variation in maximum EITC payments driven by differences in the number of children in the family and the adoption of state-specific EITC programs. Using NLSY data, she first documented similar effects on contemporaneous math and reading test scores as Dahl and Lochner (2012) and Chetty et al. (2011). The novel part of the research looked at longer-term education outcomes. Maxfield found that a \$1,000 increase in the maximum EITC benefit (year-2015 \$) when a child is growing up translates into a 1.9-percentage-point increase in the probability of graduating from high school by age 19 and a 1.3-percentage-point increase in completing a year of college by age 19. The effects she found were larger for boys, minorities, and children who were younger during the EITC expansions.



Finally, Manoli and Turner (2014) used the shape of the EITC schedule and changes to it over time to study college enrollment rates. They took advantage of population-level tax data covering nearly all high-school seniors in the U.S. between 2001 and 2011. They found that a \$1,000 lump-sum EITC tax refund (year-2015 \$) in a child's senior year of high school increases college enrollment by approximately 0.5 percentage points. In contrast, there is no impact from an EITC-related refund in a child's junior year, which the authors interpreted as evidence that the EITC relaxes credit constraints.

Emerging Consensus

Taken together, the various studies robustly found that the EITC improves children's education outcomes. Several states, including Michigan, North Carolina, Oregon, Connecticut, and Kansas have recently debated whether to cut back their state EITC programs. In contrast, California just passed and Montana is considering implementing new EITC programs, and Illinois,

Massachusetts, Minnesota, Rhode Island, and Washington have proposed expanding their state EITCs. The best available research indicates the EITC is an effective policy tool and provides support for expansions over cuts. EITC transfers not only decrease poverty among low-income children and their families, but also yield sizeable educational gains in both the short and long run. 

References

- Center on Budget and Policy Priorities. (2015). *Policy basics: the Earned Income Tax Credit*.
- Chetty, R., Friedman J., & Rockoff J. (2011). *New evidence on the long-term impacts of tax credits* (IRS Statistics of Income White Paper).
- Dahl, G., & Lochner, L. (2012). The impact of family income on child achievement: evidence from changes in the Earned Income Tax Credit. *American Economic Review*, 102(5), 1927–1956.
- Duncan, G., & Murnane, R. (Eds.) (2011). *Whither opportunity? Rising inequality, schools, and children's life chances*. New York: Russell Sage.
- Evans, W., & Garthwaite, C. (2013). Giving Mom a break: The effect of higher EITC payments on maternal health. *American Economic Journal: Economic Policy*, 6(2), 258–290.
- Hoynes, H., Miller, D., & Simon, D. (2015). Income, the Earned Income Tax Credit, and infant health, *American Economic Journal: Economic Policy*, 7(1), 172–211.
- Jones, L., Milligan, K., & Stabile, M. (2015). *Child cash benefits and family expenditures: Evidence from the National Child Benefit* (NBER Working Paper No. 21101).
- Manoli, D., & Turner, N. (2014). *Cash on hand and college enrollment: Evidence from population tax data and policy nonlinearities* (NBER Working Paper No. 19836).
- Maxfield, M. (2013). *The effects of the Earned Income Tax Credit on child achievement and long-term educational attainment* (Working paper).
- Micheltmore, K. (2013). *The effect of income on educational attainment: Evidence from state Earned Income Tax Credit expansions* (Working paper).
- Milligan, K., & Stabile, M. (2011). Do child tax benefits affect the well-being of children? Evidence from Canadian child benefit expansions. *American Economic Journal: Economic Policy*, 3(3), 175–205.
- Parker, F., Boak, A., Griffin, K., Ripple, C., & Peay, L. (1999). Parent-child relationship, home learning environment, and school readiness. *School Psychology Review*, 28(3), 413–425.
- U.S. Census Bureau. (2014). *Income and poverty in the United States: 2013* (Current Population Reports P60-249).