Volume Title: Targeting Investments in Children: Fighting Poverty When Resources are Limited

Volume Author/Editor: Phillip B. Levine and David J. Zimmerman, editors

Volume Publisher: University of Chicago Press

Volume ISBN: 0-226-47581-6
ISBN13: 978-0-226-47581-3

Volume URL: http://www.nber.org/books/levi09-1

Conference Date: September 26, 2008

Publication Date: August 2010

Chapter Title: Introduction to "Targeting Investments in Children: Fighting Poverty When Resources are Limited"

Chapter Authors: Phillip B. Levine, David J. Zimmerman

Chapter URL: http://www.nber.org/chapters/c11720

Chapter pages in book: (3 - 11)

I

Prologue

Introduction

Phillip B. Levine and David J. Zimmerman

It is not difficult to motivate attempts to reduce childhood poverty. Living in poverty is a distressing outcome for any individual, but our compassion is that much greater when that individual is a child. Children living in poverty are more likely to experience developmental problems, attend inferior schools, and suffer from poor health. The difficulties they face as children may carry into their adult years, resulting in poor educational, labor market, and physical and mental health outcomes. They are subject to all of those risks through no fault of their own.

An alarming number of American children experience poverty. Although defining poverty is a difficult task, formal government statistics indicate that almost 13 million children lived in poverty in 2006, comprising about 17 percent of the population of those under the age of 18.[1] Although that rate ebbs and flows over time, the extent of childhood poverty is about the same today as it was thirty years ago. Moreover, children in particular demographic groups experience even higher poverty rates. Fully one-third of black, non-Hispanic children and over one-quarter of Hispanic children lived in poverty in 2006. As extreme as these figures are, they have fallen from close to half of black, non-Hispanic children and 40 percent of Hispanic children as recently as the early 1990s.

Among economically developed countries, the United States stands as an outlier with child poverty rates that are considerably higher than elsewhere.

Phillip B. Levine is the Class of 1919 Professor and chair of the department of economics at Wellesley College, and a research associate of the National Bureau of Economic Research. David J. Zimmerman is a professor of economics and Orrin Sage Professor of Political Economy at Williams College, and a research associate of the National Bureau of Economic Research.

1. Statistics regarding child poverty in the United States were obtained from the U.S. Census Bureau (2007) and from the historical statistics on their Web page at http://www.census.gov/hhes/www/poverty/histpov/hstpov3.html.

Using a somewhat different measure to that reported earlier, one recent study found child poverty rates of 21.9 percent in the United States. The next highest set of countries, including Australia, Canada, Ireland, Italy, Spain, and the United Kingdom had rates that were in the vicinity of 15 to 16 percent.[2] Levels of child poverty in a number of countries, including Denmark, France, Germany, and Switzerland, are less than 10 percent. Childhood poverty is particularly an American problem. If children "outgrew" the problem, then perhaps the high rates of childhood poverty in the United States would be less of a concern. We have many legends of prominent Americans who started out with nothing and rose to great levels of success, both economically and otherwise, despite the obstacles they faced.[3] Although these success stories certainly exist, they are not so common as to alleviate our concern that those who start out with very little do not have the same chance of success as others.

In fact, research on the question of intergenerational income mobility suggests that those who begin life on the bottom of the economic ladder have a very difficult time climbing up it over their lives. Recent research has found that the correlation in income between parents and their children is on the order of 0.6 (c.f. Bowles and Gintis 2002; and Mazumder 2005). Mazumder (2005) provides a useful way to describe the implications of this statistic: "Consider a family of four with two children whose income is right at the poverty threshold . . . It will take the descendants of the family five to six generations (125 to 150 years) before their income would be within 5 percent of the national average" (235). Needless to say, typical children who grow up in poverty are likely to experience economic difficulties throughout their lives.

Is it possible to jumpstart this process? Can we identify ways to help poor children that will enable them to overcome the obstacles they face at the beginning of their lives so that they will be more successful later in their lives? The idea of doing so is an old one. A well-known proverb states: "Give a man a fish; you have fed him for today. Teach a man to fish, and you have fed him for a lifetime." One way to "solve" the problem of childhood poverty is to give money to their families. Another way is to make the investments necessary that would enable the children to succeed—teach them to fish. If we choose the latter approach, the question then becomes what investments should we make?

The policy world is full of ideas to help children overcome the obstacles they face in life. Advocacy groups routinely form around a particular type

2. International statistics on child poverty were obtained from Mishel, Bernstein, and Allegretto (2006).

3. In fact, one can read about many of them at the Web site of the Horatio Alger Association of Distinguished Americans (www.horatioalger.com). This organization is "dedicated to the simple but powerful belief that hard work, honesty and determination can conquer all obstacles."

of activity and devote a tremendous amount of effort in fundraising to support that activity and to lobby for governmental support to fund it as well. A Google search for children's advocacy groups will quickly lead one to organizations like the Center on Education Policy, the National Institute on Out-of-School Time, the National Campaign to Prevent Teen Pregnancy, or the National Association for the Education of Young Children. These institutions and the many others out there like them are all dedicated to helping children overcome a particular obstacle. Whether the focus is early childhood education, child care, education policy, teen pregnancy prevention, or otherwise, the idea is that investing resources in that goal will help improve the lives of America's youth and, particularly, those who start out disadvantaged.

The problem with this is that resources are limited. If society had an unlimited capacity to support every policy that was directed at helping children with disadvantaged backgrounds, then spending money on all of them may make sense. Unfortunately, that is not the case. In reality, the funds available to be directed toward this purpose are scarce. Our real goal is not to promote the policy, but to help the kids. This behooves us to think about which types of intervention are the most effective and then to dedicate our resources in that direction to best accomplish our goal.[4]

This is not a simple task. Conceptually, the idea of devoting resources in the direction to which they are most effective makes perfect sense. In practice, it is not obvious how to identify the most effective interventions. A primary limitation is that it is not always easy to identify the effectiveness of any intervention. For instance, programs typically enroll children, provide them with services, and then see how they do sometime in the future. An important problem in evaluating the effectiveness of programs like this is that those children who choose to enroll are not randomly selected. If they (or their parents) are sufficiently motivated to identify programs that may help them, then they may have what it takes to do well on their own even without entering the program. The fact that participants may end up with greater success than others does not tell us anything about the program's effectiveness.

Even if we are able to circumvent this problem, we are still left with the difficult task of comparing the effectiveness across programs. The fundamental limitation in this regard is that program effectiveness is often measured in totally different ways across types of interventions. Education reforms may be considered successful if they improve test scores. Teen pregnancy prevention programs are designed to reduce teen pregnancies. Programs that provide college preparatory services are successful if they get more students

4. The goal and methods of this exercise is philosophically similar to that of the *Copenhagen Consensus* (Lomborg 2004), which focused on addressing pressing issues facing the world, including poverty, the environment, education, public health, and the like.

to enroll in college. How does one compare the relative effectiveness of these programs?

One of the (perhaps unenviable) tasks of this volume is to tackle these thorny issues. The bottom line is that there is no perfect way to do so. If we were constrained to only address questions that we felt we could answer with complete confidence, we would not be able to undertake this exercise. There is no doubt that the approach we adopt will be open to criticism. Nevertheless, we believe that the questions raised are too important and the stakes are too high to simply throw up our hands and ignore the fact that decisions need to be made and funds need to be spent to support the goal of helping children escape from poverty. Our goal is to implement methods that are the best we are able to generate to provide the best possible answers, recognizing that there are limitations to our analysis.

In fact, we begin our analysis in chapter 1 by detailing a number of the complicated issues and our approach to addressing them in the analysis to follow. Chapter 1 lays out a number of specific challenges that we face in structuring this analysis, broken down into two main categories. First, we discuss a set of issues about "targeting" because they define the target at which we are shooting. What is the subpopulation of poor people that we will focus on? What do we consider success? Who are we seeking to benefit, the individual or society more broadly? The second set of issues we address relate to how we will evaluate the evidence. What evidence "counts"? Does the scale of the program matter? What outcomes are considered?

The answers to each of these questions are not obvious. We have made specific decisions to address them, which we believe are necessary to define the project in such a way that it can be executed. In that discussion, we justify why we chose to make those decisions, but we also recognize that some may disagree with them. It is our hope that such disagreements will spur additional research activity that will help further the goal of identifying the most effective interventions.

Once we have addressed these issues of implementation, we then present a review of a number of different types of interventions. The interventions we chose to examine cover the most common types and, particularly, those for which solid empirical evidence exists regarding their effectiveness. The federal government expends substantial funds to provide some of them, including Head Start, Pell Grants, the State Children's Health Insurance Program (SCHIP), among others. Other interventions that we examine are provided by state and local governments along with the private, nonprofit sector.

We categorize these interventions by the age of the target population: early childhood, middle childhood, and adolescence. The early childhood interventions that we consider are early childhood education, child care, and child health. In middle childhood, we review interventions in after-school care and education reforms (like school choice and vouchers, class size, etc.) The biggest category is adolescent interventions, which spans the horizon from drug prevention, teen pregnancy prevention, dropout prevention and college preparatory services, college aid, neighborhood initiatives, and vocational training. This section of the book will occupy chapters 2 through 12.

We are fortunate to be able to draw from the expertise of individuals who have spent their careers studying these interventions. Each chapter is authored by an expert or team of experts who know the specific type of intervention and the literature examining its impact backward and forward. The structure of each of these chapters is identical. The authors will motivate why the intervention may help, provide some background regarding its implementation in practice, and then review the literature assessing its effectiveness. Where appropriate, they will also provide input regarding their thoughts on how programs of that type may be improved or how future evaluations should be conducted.

These chapters, taken as a whole, will be of tremendous value to the policy-making community simply by cataloging so many different types of interventions and evaluating the evidence of their effectiveness on their own terms. Most analyses focus on one intervention at a time and raise the victory flag if they are able to find that the program provided benefits, particularly if they are greater than their costs. The availability of the breadth of interventions reviewed, all in a similar format, greatly facilitates the review process.

The results of the analyses in each of these chapters will then be used as inputs into a methodology that will synthesize them and enable us to compare across interventions. Chapter 13 will provide the specifics of this approach and describe the results of our analysis. The trick here is to find a common metric so that the effects of these programs can be compared. Again, some programs will measure success using standardized test scores, others will focus on high school graduation, and still others by the number of pregnancies prevented. It will be our job in this chapter to introduce our approach for comparing across outcomes.

The basic idea is to convert each of these outcomes to their impact on the adult earnings of program participants. Consider, for instance, a school reform program that improves the reading and math test scores of its participants. We can use outside information regarding the relationship between reading and math test scores in school to subsequent earnings to convert the program's impact. We do that for every outcome to which we have access so that all interventions are judged on a single metric—impact on adult earnings. Clearly, there are a number of specific issues involved in implementing this approach: we will document those in chapter 13 as well before presenting the results of our analysis.

Besides the value in unifying measured outcomes, this approach also is useful because adult earnings may be a better metric for assessing program impacts anyway. We may value improved test scores, for instance, for their own ends because we believe there are benefits to having a better-educated society. But clearly another important goal, as we have described earlier, is the alleviation of poverty later in life among children who grow up facing economic disadvantage. It is the greater subsequent economic success that those higher test scores may generate that better reflects the accomplishment of that goal.

This is not to say that economic success later in life is the only goal that we believe is important. Although it is difficult to compare child health to test scores, for instance, child health is clearly an important outcome in its own right. As a society we certainly value it. Our goal in standardizing outcomes is not because of our failure to recognize other outcomes, but because it is so difficult to compare them. Indeed, the authors of each chapter focusing on specific types of interventions include discussions about the impact on earnings as well as other outcomes, where appropriate. It is only when we go to synthesize the results that our focus turns exclusively to earnings.

It is also important to recognize how this study compares to past analyses. Moffitt (2003) provides an extensive review of a number of means-tested transfer programs and evaluates their effects. Our work is different than that partly because not all interventions are part of large government programs and because a formal benefit-cost analysis is not a goal of that work. Currie (2006) also focuses on governmental programs exclusively and evaluates the role that they play in assessing contemporaneous child well-being. Our goal is to evaluate program effectiveness at reducing subsequent poverty in adulthood.

The work that is most closely related to ours is that of Heckman and coauthors, who have done some excellent work in this area (cf. Carneiro and Heckman 2003; Cunha et al. 2006; and Cunha and Heckman 2007). He and his coauthors usefully place an important emphasis on the dynamics of human capital accumulation—early human capital improvements foster later improvements—suggesting that early interventions usually trump later interventions. He also emphasizes the importance (and likely feasibility) of nurturing noncognitive traits.

Yet we believe that this volume will make important contributions beyond those of Heckman and coauthors' work. First, we plan to provide a review of a greater variety of program types and more extensive reviews of those programs. Heckman and coauthors' approach is to use the evidence from these programs to examine his broader focus on the dynamics of human capital accumulation and in evaluating the role of noncognitive skills. Their evaluation of program effects is more of an overview, spending less time delving into the details of the interventions and the existing literature related to their outcomes. Our objectives are much more pragmatic, attempting to identify programs that "work."

Second, our goal is much more narrowly targeted at finding the best ways to reduce poverty in adulthood among those who grow up disadvantaged, and this is captured in our benefit-cost analysis. We focus on program impacts on subsequent earnings, whereas Heckman and coauthors' approach is more broad-based in measuring benefits. It is this narrower focus on poverty reduction in adulthood that pushes the need to take greater empirical "risks" in our benefit-cost analysis.

The results of our analysis indicate that there are a number of different types of programs that have been found to improve children's outcomes in ways that would lead to subsequent poverty reduction. Chapter 13 describes the complete results of our analysis, but table I.1 summarizes our findings.

In table I.1, we distinguish programs into three distinct categories. In the first category, we identify those programs for which there is little conclusive evidence that these programs are able to alter children's outcomes in any dimension. This is not to say that they do not work, but rather that the evidence supporting their efficacy is limited. One particular example is school vouchers and school choice programs. In this case, evidence is available that shows that these programs do not alter children's educational outcomes much. Alternatively, after-school programs may be effective, but the evidence supporting this position is sufficiently weak that more work is needed before we would be able to conclude anything stronger. The details supporting our decisions for placing these programs into this category can be found in the relevant chapters later in this volume.

The second category includes those programs that have been found to be effective in changing outcomes for children and teens, but not in a way that is likely to alter their poverty status. Included in this category are child care, child health, and teen pregnancy prevention. The research reviewed in the relevant chapters of this volume indicates that they are all effective in certain dimensions. For instance, child care policies have been shown to effectively enable mothers to work, but the translation into benefits to the children in their poverty status down the road is limited. Some teen pregnancy prevention programs have been able to reduce the teen

Table I.1 **Summary of results**

Programs with limited evidence of effectiveness	Programs that are difficult to link to poverty reduction	Programs that can be linked to poverty reduction
Parenting programs	Child care	Early childhood education
Vouchers/school choice	Child health	Mentoring programs
After-school programs	Teen pregnancy prevention	Class size reduction
Dropout prevention programs	Housing voucher/mobility programs	Curriculum reforms
		Teacher training
Substance abuse programs		Increased teacher pay
General jobs programs		College aid
Employment/training subsidies		Intensive vocational training

pregnancy rate but do not appear to be likely to alter those teens' subsequent poverty status.

The final category includes those programs that have been found to alter children's outcomes in a way that can be linked to poverty reduction. These programs have been found effective using methods strong enough to support their link to poverty reduction. Again, the details that indicate this is the appropriate column for placing these programs are found in the relevant chapters later in the volume. Our discussion in chapter 13 takes the analysis of these programs one step further by comparing the impact on subsequent earnings per $1,000 invested in each program. Most of them generate between $2,000 and $5,000 in lifetime earnings (in present discounted value terms) for the $1,000 investment. We interpret the exact values of these returns later in this volume, but for now it is appropriate to conclude that they each pass a basic benefit-cost comparison test even when the benefits are narrowly defined to be lifetime earnings of the participants.

In looking at table I.1, one conclusion that comes to mind is that almost all the programs that seem to be effective are the ones that directly attack human capital attainment. Programs that are really designed to focus on a different problem that may then have a subsequent impact on human capital attainment do not appear to do that job. This makes sense to us. A teen pregnancy prevention program may reduce the likelihood that teens get pregnant. But that reduction is going to be relatively small as a share of the whole group. If we could prevent an additional 10 percent of teens from becoming pregnant, this would be a huge accomplishment. This means, though, that 90 percent of the population has no change in their circumstances. Of the 10 percent who remain child-free, the earnings impact would have to be huge in order for it to have much of an effect on group average outcomes. This is simply unlikely to occur. Teen pregnancy prevention programs and others targeted at other outcomes may be desirable for other reasons, but it is going to be very hard for them to have much of an impact on broader measures of poverty.

That is not to say that all direct human capital interventions will be successful either. Traditional jobs programs that find employment for underprivileged youth and employment and training subsidies that offer small increments to an individual's human capital have not been found to be effective for the population of individuals (and men, in particular) transitioning into adulthood. Only intensive interventions, like Job Corps and Career Academies seem to be able to make the difference. These programs have the potential to improve participants' human capital considerably, albeit at a relatively high cost.

Among those programs that are found to be effective, we see one other interesting pattern. Most are direct human capital interventions, but they are not necessarily tilted to younger children. The emphasis on human capital is consistent with Heckman and coauthors' work that we have described earlier. But it is not consistent with their implication that investing at younger ages works better. Their notion that "skill begets skill" would suggest that early childhood interventions should dominate the rest of the group because the improvements in human capital at early ages will compound as the child ages. As we show in chapter 13, we do not see such an age profile in the estimated earnings impact per $1,000 investment in each type of program. Interventions at older ages, including college aid, appear to be at least as effective as early childhood interventions.

The remainder of this volume provides the details regarding the methods we used to arrive at these conclusions, along with an extensive review of all of the programs. After completely presenting the evidence, we will return to these conclusions in chapter 14 and provide some further thoughts regarding interpretation. Overall, we view our contribution as a starting point rather than the final word for thinking about appropriate methods of allocating scarce resources to the goal of reducing poverty. This goal is important enough that spending the money wisely is worth the effort.

References

Bowles, Samuel, and Herbert Gintis. 2002. The Inheritance of inequality. *Journal of Economic Perspectives* 16 (3): 3–30.

Carneiro, P., and J. Heckman. 2003. Human capital policies. In *Inequality in America: What role for human capital policies?,* ed. J. J. Heckman, A. B. Kruger, and B. M. Friedman, 77–239. Cambridge, MA: MIT Press.

Cunha, F., and J. J. Heckman. 2007. The technology of skill formation. *American Economic Review* 97 (2): 31–47.

Cunha, F., J. J. Heckman, L. Lochner, and D. Masterov. 2006. Interpreting the evidence on life cycle skill formation. In *Handbook of the economics of education,* ed. E. Hanushek and F. Welch, 697–812. Amsterdam: North Holland.

Currie, Janet M. 2006. *The invisible safety net: Protecting the nation's poor children and families.* Princeton, NJ: Princeton University Press.

Lomborg, Bjørn. 2004. *Global crises, global solutions.* Cambridge, UK: Cambridge University Press.

Mazumder, Bhashkar. 2005. Fortunate sons: New estimates of intergenerational mobility in the United States using Social Security earnings data. *Review of Economics and Statistics* 87 (2): 235–55.

Mishel, Lawrence, Jared Bernstein, and Sylvia Allegretto. 2006. *The state of working America, 2006/2007.* Ithaca, NY: ILR Press.

Moffitt, Robert A., ed. 2003. *Means-tested transfer programs in the United States.* Chicago: University of Chicago Press.

U.S. Census Bureau. 2007. *Income, poverty, and health insurance coverage in the United States: 2006.* Washington, DC: U.S. Government Printing Office.