

Contract No.: K-4279-3-00-80-30
MPR Reference No.: 8140-530

MATHEMATICA
Policy Research, Inc.

**National Job Corps
Study: The Benefits and
Costs of Job Corps**

June 2001

*Sheena McConnell
Steven Glazerman*

Submitted to:

U.S. Department of Labor
Employment and Training Administration
Office of Policy and Research
Room N-5637
200 Constitution Avenue, NW
Washington, DC 20210

Project Officer:

Daniel Ryan

Project Director:

John Burghardt

Principal Investigators:

Terry Johnson
Charles Metcalf
Peter Z. Schochet

Submitted by:

Mathematica Policy Research, Inc.
600 Maryland Avenue, SW
Suite 550
Washington, DC 20024-2512
(609) 799-3535

In conjunction with:

Battelle Memorial Institute
(Subcontractor)
4500 Sands Point Way, NE, Suite 400
Seattle, WA 98105-3949

Decision Information Resources, Inc.
(Subcontractor)
2600 Southwest Freeway, Suite 900
Houston, TX 77098

This report has been produced under Contract Number K-4279-3-00-80-30 with the U.S. Department of Labor, Employment and Training Administration. The contents of the report do not necessarily reflect the views or policies of the Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement of these by the U.S. Government.

EXECUTIVE SUMMARY

Job Corps plays a central role in federal efforts to provide employment assistance to disadvantaged youths. The program's goal is to help disadvantaged youths become more responsible, employable, and productive citizens by providing intensive and comprehensive services, including education, vocational skills training, and counseling. The services are mostly provided in a residential setting. Each year, Job Corps serves more than 60,000 new enrollees at a cost of more than \$1 billion.

The National Job Corps Study, funded by the U.S. Department of Labor, was designed to provide information about the effectiveness of Job Corps in attaining its goal. The cornerstone of the National Job Corps Study was the random assignment of all youths found eligible for Job Corps to either a program or a control group. Program group members could enroll in Job Corps. Control group members could not, but they could enroll in all other programs available to them in their communities.

This report presents the findings of a benefit-cost analysis of Job Corps. In a benefit-cost analysis, a dollar value is placed on each program impact. By measuring impacts in dollars, a benefit-cost analysis enables policymakers to compare the diverse benefits of Job Corps with its costs. It provides a way of assessing the relative size of each impact and the cost-effectiveness of the program as a whole.

Our findings suggest that Job Corps is a good investment: the benefits to society exceed the costs of the program by nearly \$17,000 per participant (Table 1). The finding that benefits exceed costs holds under a wide range of plausible assumptions and for most groups, including both residential and nonresidential students. It does, however, depend critically on the assumption that the earnings impacts observed during the study do not decline rapidly as participants get older. Observations during the study and evidence from other research suggest that these impacts will indeed persist without rapid decay.

STUDY METHODOLOGY

A diverse set of benefits and costs was included in the analysis. The measured benefits and costs fall into four categories:

1. The benefits of increased output resulting from the additional productivity of Job Corps participants
2. The benefits from reduced use of other programs and services, including other education and training, public assistance, and substance abuse treatment programs
3. The benefits from reduced crime committed by participants as well as the benefits from reduced crime committed *against* participants

TABLE 1
BENEFITS AND COSTS OF JOB CORPS, BY PERSPECTIVE
(1995 Dollars)

Benefits or Costs	Perspective		
	Society	Participants	Rest of Society
Benefits from Increased Output	\$27,531	\$17,773	\$9,758
Year 1			
Increased Earnings and Fringe Benefits	-1,883	-1,883	0
Increased Child Care Costs	-50	-47	-4
Increased Taxes	0	309	-309
Years 2 to 4			
Increased Earnings and Fringe Benefits	2,558	2,558	0
Increased Child Care Costs	-96	-77	-19
Increased Taxes	0	-855	855
After the Observation Period			
Increased Earnings and Fringe Benefits	27,281	27,281	0
Increased Child Care Costs	-503	-398	-106
Increased Taxes	0	-9,115	9,115
Output Produced During Vocational Training in Job Corps	225	0	225
Benefits from Reduced Use of Other Programs and Services	2,186	-780	2,966
Reduced Use of High School	1,189	0	1,189
Reduced Use of Other Education and Training Programs	874	0	874
Reduced Use of Public Assistance and Substance Abuse/Treatment Programs	122	-780	902
Benefits From Reduced Crime	1,240	643	597
Reduced Crime by Participants	1,240	0	1,240
Reduced Crime Against Participants	0	643	-643
Program Costs	-14,128	2,361	-16,489
Reported Program Operating Costs (Net of Transfers)	-12,540	0	-12,540
Unreported Program Operating Costs (Net of Transfers)	-551	0	-551
Capital Costs	-1,037	0	-1,037
Student Pay, Food, and Clothing (Transfers)	0	2,361	-2,361
Net Benefits^a	\$16,829	\$19,997	-\$3,168
Net Benefits per Dollar of Program Expenditures^b	2.02		

SOURCE: Tables III.7, IV.6, V.5, and VI.4

^aBecause of rounding, net benefits may not equal the sum of the rows. Similarly, benefits to society may not precisely equal the sum of the benefits to participants and the benefits to the rest of society.

^bThe ratio of benefits to costs from each perspective depends partly on arbitrary decisions, such as whether year 1 output is subtracted from benefits or added to costs, and hence it is not easily interpretable. To provide a ratio with a useful interpretation, we present the amount society gains from each dollar spent on the program. The ratio's denominator is the amount spent operating the program (\$16,489). The numerator is the benefit to society (\$27,531 + \$2,186 + \$1,240) plus the cost of student pay, food, and clothing (\$2,361). The cost of student pay, food, and clothing is included in the numerator to offset the fact that it is included in the denominator even though it is not a cost to society.

4. Program costs, including reported program costs, costs not reported on Job Corps' financial reports, and the economic costs of the capital—land, buildings, furniture, and equipment—used by Job Corps

Benefits and costs were measured from three perspectives: (1) society, (2) participants, and (3) the rest of society. Society's perspective is the most relevant for policymakers because it indicates whether the aggregate benefits from the program are greater than the resources used by the program, abstracting from who enjoys the benefits of the program and who bears its costs. Members of society fall into two groups: participants and everyone else (the rest of society). The participants' perspective indicates whether participating in Job Corps is a good investment for the youths themselves. The rest of society's perspective indicates the magnitude of the investment in Job Corps made by taxpayers and other citizens.

Most benefits were estimated by multiplying an estimate of the program's impact by an estimate of the dollar value of the impact. The impacts were estimated using data from surveys conducted soon after random assignment (when youths were first determined eligible to participate in Job Corps), and 12, 30 and 48 months afterwards. Most impacts were converted into benefits using market prices.

We observed our sample members for about three years after they left Job Corps. However, Job Corps aims to make long-term changes in youths' lives that can be expected to continue well beyond our study. We took a long-term, but cautious, approach to account for future benefits. Only benefits that did not decline during the observation period were assumed to continue after it. Impacts on crime and use of other services and programs declined during the follow-up period; hence, we did not measure the future benefits for these impacts. However, impacts on earnings persisted without decline, so we estimated the benefits from these impacts that will occur after the observation period.

We tested the sensitivity of our estimates to alternative assumptions. The benchmark estimates presented in Table 1 are based on the best available data and, in our judgment, the most appropriate assumptions. However, recognizing the uncertainty inherent in these estimates and assumptions, we tested the sensitivity of our estimates to alternative estimates and assumptions. This sensitivity analysis plays a role analogous to the role of standard errors in the estimates of Job Corps impacts.

BENEFITS: INCREASED OUTPUT

A major goal of Job Corps is to increase the employment and earnings of the youth it serves. Our study concludes that the program meets this goal.

The largest benefit of Job Corps is the value of the additional output that participants produce. Job Corps participants produced \$27,500 more output per participant than their control group counterparts. This includes increased output produced during employment net of increased child care costs and the value of the output produced by participants during vocational training. The increased output produced during employment was measured by the increase in participants' total compensation—that is, earnings and fringe benefits.

Output initially decreased in the first year, but then increased in the remaining three years of the observation period. In the first year of the observation period, output produced by Job Corps participants was about \$1,700 per participant less than that produced by their control group counterparts, reflecting the participants' forgone employment opportunities while in Job Corps (Figure 1). However, in the remaining three years of the observation period combined, output was about \$2,500 per participant higher than in the absence of Job Corps.

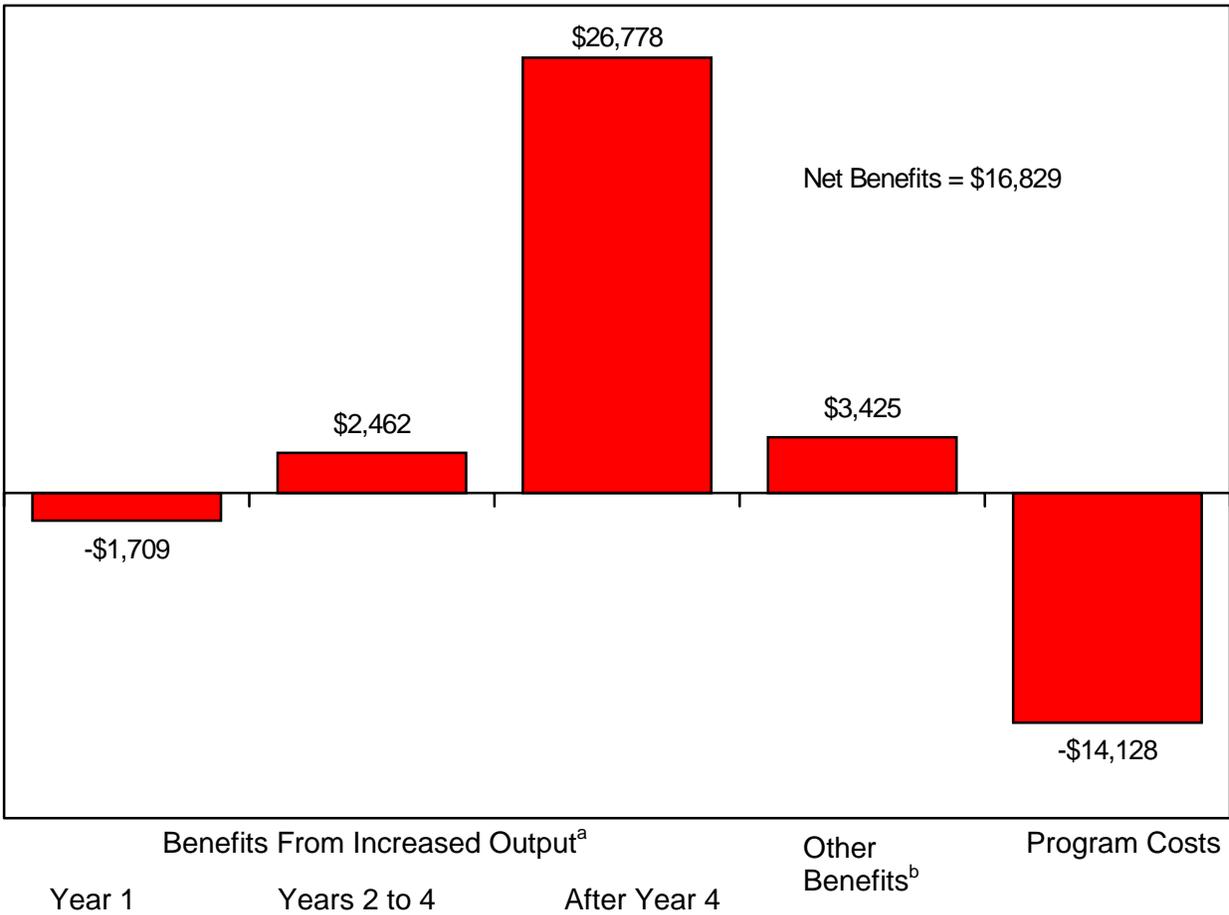
Output produced after the observation period was estimated to be \$26,800 per participant. The dollar value of the annual impact on compensation in the last year of the observation period (\$1,550) was assumed to persist for the rest of the average participants' working lifetime. The rationale for this assumption was:

1. ***The impacts of Job Corps did not decline during the observation period.*** We found that impacts increased during the third year in the observation period and persisted without a decline in the fourth year (approximately the second and third year, respectively, after program participation). Long-term studies of the returns to training find that, if returns decline, the decline occurs within two or three years after a trainee leaves the program.
2. ***Job Corps teaches multiple skills.*** Participants in Job Corps engage not just in vocational training but also in academic education and training in social and workplace skills. Studies of other programs suggest that the impacts from programs that teach broader skills are more likely to persist.
3. ***Job Corps improved literacy and numeracy skills.*** We found Job Corps raised scores on tests of literacy and numeracy skills used in the workplace. These basic skills are less likely to become obsolete over time than more narrow job-specific training.
4. ***The earnings impacts from participation in Job Corps in the fourth year of the observation period were similar to the returns to a year of school.*** On average, the return to an additional year of school persists without decline for the rest of a workers' lifetime.

Our approach assumes that the dollar value of the earnings impact persists over time. Because average earnings increase with workers' age, our assumption implies a *decline* in the impact as a percentage of earnings. If instead of assuming a constant-dollar-earnings impact (\$1,550) we assumed a constant-proportionate-earnings impact (12 percent), the estimate of the net benefits of Job Corps would increase substantially.

Job Corps increases child care costs. The additional time Job Corps participants spend in training and employment means they spend less time caring for children in the home and have a greater need for child care outside the home. The cost of this additional child care to society is about \$600 per participant.

FIGURE 1
 BENEFITS AND COSTS TO SOCIETY
 (1995 Dollars per Participant)



^a Includes earnings and fringe benefits minus child care costs. Year 1 also includes output produced during vocational training.

^b Includes reduced use of other programs and services and reduced crime.

As Job Corps participants earn more, they pay more in taxes. We estimated that Job Corps participants will pay about \$9,700 more in federal, state, and local taxes throughout their working lives. The increased taxes impose a cost on participants and a benefit to the rest of society. From society's perspective, these benefits and costs offset each other.

Job Corps students also produce goods and services during vocational training. The goods and services produced by students for community organizations benefit society by about \$200 per participant.

BENEFITS: REDUCED USE OF PROGRAMS AND SERVICES OTHER THAN JOB CORPS

Job Corps reduces the use of a wide variety of other programs and services.

The benefit to society from the reduced use of other programs and services was about \$2,200 per participant. More than half of this benefit was from the reduced attendance at high school, which saved society just under \$1,200 per participant. Most of the rest is from their reduced use of other education and training programs, although a small amount was due to the reduced use of public assistance and substance abuse treatment programs.

Job Corps participants received almost \$800 less in public assistance. This forgone assistance is a cost to participants but because it is offset by a benefit to the rest of society, which does not need to pay the public assistance costs, it is neither a cost nor a benefit to society. However, the forgone cost of administering the assistance, estimated to be about \$100 per participant, is a benefit to society.

BENEFITS: REDUCED CRIME

Job Corps reduces both the crime committed by participants and the crime committed against them. The benefits from reduced crime include both reduced use of resources by the criminal justice system (for apprehension, prosecution, and sanctions) and the reduced costs to victims of crime (mainly for injury and property loss).

The benefits to society from reduced crime were about \$1,200 per participant. A reduction in murder committed by Job Corps participants accounted for nearly half of these benefits and a reduction in burglary accounted for another one-third. About three-quarters of the total benefits was a result of reduced costs to victims; the remaining one-quarter was a result of reduced costs in the criminal justice system.

Participants also benefit from the reduction in crime committed against them, estimated to be about \$700 per participant. This reduction is likely to be offset by an increase in crime against other people, as criminals pick other targets. Therefore, we assumed the reduction in crime committed against participants does not affect the total amount of crime in society.

PROGRAM COSTS

Job Corps provides many intensive services to its participants for a sustained period and, as a result, uses considerable resources.

Job Corps uses resources valued at just over \$14,100 per participant. The majority of these costs (\$12,500) are program operating costs reported on Job Corps' financial reports. The rest of the costs include: the estimated costs of Job Corps' capital (\$1,000) and the donations, grants, volunteers, costs of staff at the national and regional offices, and other costs not reported on Job Corps' financial reports (\$600).

Government expenditures on Job Corps were about \$16,500, about \$2,400 more than program costs to society. Some of the government expenditures for Job Corps are used to pay allowances and bonuses to Job Corps students and provide them with food and clothing. As these payments, food, and clothing have intrinsic value to participants regardless of their value as an investment in the future, these expenditures are offset by equal immediate benefits to Job Corps participants. Hence these expenditures are not costs to society but are transfers from the rest of society to Job Corps participants.

It costs society about \$3,000 (25 percent) more for a residential student than a nonresidential student. The higher costs are mainly related to the higher costs of counseling, residential advisors and other instruction, food, and health services. The relatively small residential-nonresidential cost difference is not surprising given that nearly all Job Corps services are offered to both residential and nonresidential students.

COMPARING BENEFITS AND COSTS

By comparing benefits and costs we can address the central question of this study: Do the benefits from Job Corps exceed its costs?

Job Corps is a good investment of society's resources: benefits exceed costs. On average, we estimate that society will benefit from an increase in resources equivalent to about \$17,000 for every youth it sends to Job Corps. Job Corps returns to society about \$2 for every dollar spent on the program.

Job Corps is a good deal for participants. They gain \$20,000 each, on average, mostly from increased earnings and fringe benefits net of increased taxes and child care costs after leaving Job Corps. The value of the pay, food, and clothing Job Corps participants receive while enrolled in Job Corps generally offset the earnings and fringe benefits forgone while attending Job Corps.

The rest of society pays for Job Corps, but shares in the benefits. While the government spends about \$16,500 on each participant, most of these costs are offset by the increased taxes paid by participants, reduced use of education, training, and public assistance programs, and the reduced costs of crime. After realizing these benefits, the net cost to the rest of society is only \$3,200 per participant.

Benefits exceed costs for most groups of youth. Net benefits to society are positive for residential and nonresidential students, students attending centers run by private contractors and centers run by government agencies, and those attending small-, medium-, and large-sized centers. Benefits also exceed costs for most groups defined in terms of participants' characteristics at baseline. We do not expect benefits to exceed costs for Hispanics and youth aged 18 and 19 at random assignment because Job Corps had no impacts on the earnings of these youth toward the end of our observation period.

Benefits exceed costs under a wide range of plausible assumptions. The most critical assumptions are those that affect the estimate of the increased output after the observation period. If the earnings impact declines rapidly after the observation period, which in our judgment is unlikely, benefits from Job Corps would not exceed its costs. Our conclusion that benefits exceed costs requires that either the dollar value of the earnings impact in the last year of the observation period declines at less than 8 percent each year until retirement, or the dollar value of the impact persists for at least nine years without any decline. In the coming years, it may be possible to replace these predictions about future benefits with empirical estimates of the long-term impacts of Job Corps, based on data from administrative records on sample members' earnings. The estimate of net benefits varied by less than \$4,000 when we changed assumptions unrelated to benefits after the observation period.