

Contract No.:
MPR Reference No.: 7694

**Evaluation of The
Minority Female Single
Parent Demonstration:
Fifth-Year Impacts at
CET**

December 1993

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ACKNOWLEDGMENTS

This report benefited from the advice and comments of Phoebe Cottingham, Rob Hollister, John Burghardt, and Stuart Kerachsky, who have guided work on the MFSP evaluation since its beginning. Sandra Scott Barone assisted with programming, and Catherine Sheil created the figures. Laura Berenson edited the report, and Marjorie Mitchell, Isa Pierre, Jill Miller, and Monica Capizzi produced it. Rita Stapulonis directed the 60-month follow-up survey, with assistance from Betty Friedman, to collect the data on which this report is based.

This work builds upon previous MFSP evaluation reports. John Burghardt, project director for the MFSP demonstration evaluation, guided our earlier work on this project and taught us much of what we know about evaluation research. Other colleagues who have contributed to our work through their efforts on earlier reports include Craig Thornton and Anu Rangarajan.

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EXECUTIVE SUMMARY

Between 1982 and 1988, the Rockefeller Foundation funded selected community-based organizations (CBOs) to operate the Minority Female Single Parent (MFSP) demonstration. Four projects--the Center for Employment Training (CET) in San Jose, California; the Atlanta Urban League (AUL) in Atlanta, Georgia; Opportunities Industrialization Center (OIC) of Rhode Island in Providence; and Wider Opportunities for Women (WOW) in Washington, DC--enrolled 3,965 women in the demonstration. More than two-thirds had received welfare during the year preceding their applications to the demonstration programs. Program applicants were assigned randomly to a treatment group, which was offered program services, including basic skills and job skill assessments, counseling, remedial education, job skill training, job placement assistance, and child care assistance, or to a control group, which was not eligible to receive services at the CBO but could seek them elsewhere in the community.

PREVIOUS FINDINGS AND MOTIVATION FOR THE 60-MONTH FOLLOW-UP SURVEY

On the basis of follow-up interviews with treatment and control group members at 30 months after application, the MFSP program at CET was identified as the most successful of the four programs implemented during the MFSP demonstration (Burghardt et al. 1992). A benefit-cost analysis estimated that only the program at CET provided benefits to society projected over five years that outweighed the costs of program services. The CET program led to significant increases in average monthly earnings, average hourly earnings, and the percentage ever employed during the last year of the 30-month follow-up period. The programs at AUL and OIC had no effects on post-training employment, earnings, or welfare receipt during the 30-month follow-up period. The program at WOW produced modest gains in employment, but the impacts followed an inconsistent pattern that raised questions about the reliability of the findings.

Differences in program design might explain the finding of earnings gains at CET and the absence of such gains at the other sites. CET used an unusual open-access, integrated training design, distinguished by two features: (1) women would enter job training immediately, regardless of their level of educational attainment; and (2) remedial education would be integrated directly into training for a specific job, rather than provided either before job training or concurrently in a separate class. Job training at CET focused on competencies required by employers for particular jobs and emphasized training in occupations in which jobs were plentiful. The curriculum was full-time and demanding, yet self-paced. Individual trainees were permitted to begin training whenever an opening was available, and to leave when they had become proficient in the skills of their selected job. CET also emphasized immediate placement in jobs after training.

The other three projects provided similarly comprehensive services, but adopted more common strategies for delivering job preparation services. AUL and OIC used a sequential approach, in which women with poor basic skills were placed initially in remedial education courses, and could enter job skill training only after having attained academic prerequisites. WOW adopted a general employability model, consisting of courses on motivation, basic reading and mathematics, and job search skills. A second course at WOW, for women with stronger reading and mathematics skills, augmented the general courses with instruction in the basic concepts of electricity, mechanics, and tools as preparation for training or employment in a range of jobs not traditionally filled by women.

The distinctive training approach offered by CET, combined with the strong impacts of the program during the first 30 months of the follow-up period, have led to considerable interest in the CET program model among policymakers. As a result of this strong interest, the Rockefeller Foundation funded a 60-month follow-up survey of the sample participating in the MFSP program at CET to determine whether the impacts persisted.

FIFTH-YEAR IMPACTS OF THE MFSP PROGRAM AT CET

The CET program continued to generate significant earnings gains during the fifth year of follow-up. The data also confirm that the net benefits of the CET program exceed its costs to society over five years. Specific findings from the follow-up period are:

- During the fifth year after program application, treatment group members earned an average of \$95 per month more than did control group members--a statistically significant impact equal to 17 percent of control group mean earnings. Treatment group members' higher earnings were the result of working more hours and earning a higher hourly wage. However, the treatment-control differences in employment rates, hours worked, and hourly earnings were not individually statistically significant.
- Employment and earnings effects during the fifth follow-up year were significantly larger for sample members with 12 or more years of schooling than for those with less than 12 years of schooling. Impacts on both employment and earnings were close to zero for those who did not complete high school, but large and significantly different from zero for high school graduates. In contrast, during the year before the 30-month follow-up interview, the CET program led to significantly increased earnings for both groups.
- During the fifth-year after application, as in the first 30 months, reductions in welfare receipt were small and not statistically significant. The CET program's impact on earnings was much larger than its impact on welfare receipt, because some of the earnings gains accrued to treatment group members who would not have received welfare benefits even in the absence of the program. Less than one-half of treatment and control group members were receiving welfare during the 60th month after application.
- By the end of the five-year follow-up period, at least 85 percent of the treatment group had participated in some education or training, compared with 59 percent of the control group. (These estimates are lower bounds, because data do not cover all months of the five-year follow-up period.) Differences in the fifth-year participation rates are not statistically significant--19 percent of the treatment group and 22 percent of the control group participated in education or training programs.
- Impacts on General Education Development (GED) attainment 30 months after program application had disappeared by the end of five years, as control group members caught up with treatment group members in GED attainment. Among sample members lacking a high school credential at application, about 21 percent of members of both groups had attained a GED by the time of the 60-month interview.

- Over a five-year period, the investment in MFSP services at CET produced a positive return both from the perspective of society and from the perspective of program participants. From the social perspective, the updated estimate of net benefits (in 1986 dollars) is \$975 per participant over a five-year period. From the participants' perspective, net benefits are more than \$2,500. However, from the government-budget perspective, costs exceed benefits by about \$1,600 per participant, because reductions in welfare benefits to participants were small.

CONCLUSION

The persistence of the earnings impacts of the MFSP program at CET is especially remarkable, because the availability of alternative education and training programs grew during the latter part of the follow-up period and a large proportion of control group members participated in such programs. Although denied services at CET, at least 59 percent of control group members received education or training through GAIN, California's welfare-to-work program, or through other sources. Thus, the measured average impacts of the CET program represent the effects of CET training over and above any education or training received by control group members. Similarly, the disappearance of impacts on sample members with low levels of education could indicate that CET services did not have lasting effects on this group, or that control group members with low education levels benefitted more from the alternative services, thereby increasing their earnings to the levels of treatment group members with low education levels.

The estimates of fifth-year impacts of the MFSP program at CET confirm the promise of the CET model of open-access job training with integrated basic skills remediation and job training. However, to determine whether the success of the MFSP program at CET can be replicated in other settings, additional testing of the CET training approach is needed.

I. INTRODUCTION: OVERVIEW OF THE DEMONSTRATION AND PREVIOUS RESULTS

From 1982 through 1988, the Rockefeller Foundation provided funding to four community-based organizations (CBOs) to operate the Minority Female Single Parent (MFSP) demonstration. This demonstration gave low-income minority single mothers the opportunity to enhance their economic self-sufficiency through an array of services, including basic education, job skill training, counseling, child care assistance, job placement assistance, and other support services. Its objective was to help participants to secure employment that paid at least 30 percent more than the minimum wage. The following four CBOs operated MFSP demonstration projects:

1. Center for Employment Training, of San Jose, California (CET)
2. Atlanta Urban League, of Atlanta, Georgia (AUL)
3. Opportunities Industrialization Center, of Providence, Rhode Island (OIC)
4. Wider Opportunities for Women, of Washington, DC (WOW)

The Rockefeller Foundation defined the services to be offered, but did not define a specific service model. Instead, the four CBOs adopted the service model that best met local goals and reflected their views of the types of services required. The CET model emphasized job skill training for all and integrated basic education with the training. AUL and OIC adopted the traditional sequential approach, consisting of basic education followed by job training. WOW used a two-track model stressing remediation for women with low basic skills, and remediation followed by training for women with higher basic skills.

The Rockefeller Foundation funded a comprehensive evaluation of the four programs by Mathematica Policy Research, Inc. To allow a rigorous evaluation of program impacts, the demonstration operated with an experimental design, in which all program applicants were randomly assigned to a treatment group, which was eligible to receive program services, or to a control group,

which was not eligible to receive program services. This report is the third in a series of reports on the impacts of the MFSP demonstration over time. Gordon and Burghardt (1990) assessed the impacts of the demonstration during its first 12 months, and Burghardt et al. (1992) assessed the impacts during the first 30 months.¹ Those reports found that only the MFSP program offered at CET had substantial economic impacts during the first 30 months of the follow-up period. This report extends the follow-up period to 60 months after program application for the sample of women who applied to the program at CET.

A. OVERVIEW OF THE PROGRAM MODELS

The best design for programs to improve the self-sufficiency of low-income single mothers who are receiving welfare remains a matter of considerable policy debate. To help to understand the uniqueness of the CET approach, this section provides an overview of the program models used in the four MFSP programs.

The driving philosophy of the CET program is that anyone can improve his or her employment skills and obtain a job. CET did not limit access to occupational skill training by requiring previous mastery of specific basic educational skills. Instead, CET allowed trainees to start job training immediately. Courses were structured to permit "open entry" and "open exit," enabling trainees to master skills at their own pace. CET provided training in the basic reading and mathematics skills relevant to the job, integrated that basic skill training with hands-on job skill training, and offered supplemental courses for those seeking a General Education Development (GED) certificate or needing training in English as a second language (ESL). More so than any of the other MFSP projects, CET focused its skill training on occupations in demand (phasing courses in and out or revising courses as market conditions changed) and aggressively marketed its trainees to local employers.

¹In addition, the evaluation included: a description of the local context and target population (Burghardt and Gordon 1988); a process analysis of program operations (Hershey 1988); and an analysis of program costs (Handwerger and Thornton 1988).

In addition, the CET program very strongly reflected the philosophy that trainees require both support services and a supportive environment as assistance in overcoming logistical, emotional, and motivational problems that work against success in training and in finding and retaining employment. In particular, CET used demonstration funds to establish a Montessori child care center at the main CET training location for children up to 6 years of age. Program participants used the child care center extensively.

In contrast, the AUL and OIC programs represented a more traditional approach to employment training, stressing remediation of basic skills before offering occupational training. At AUL, the program focused on preparing participants to qualify for pre-existing skill training programs (most of which had academic prerequisites). Program professionals diagnosed the academic and skill strengths and weaknesses of participants in order to guide them toward realistic goals and training programs. The program primarily relied on training courses available in the community and created new programs only to fill gaps in the existing network. AUL also helped participants to locate subsidized child care at local centers.

At OIC, the MFSP program emphasized completing high school or attaining the GED for those lacking a high school credential. Only after participants attained the GED or requisite level of basic skills were they referred to structured, scheduled-duration courses in occupational skill training. OIC recognized the difficulty of participants' obtaining child care by arranging for on-site applications for child care subsidies from the local welfare agency and by offering considerable guidance in choosing providers.

WOW emphasized general preparation for employment, rather than skill training focused on specific jobs. The philosophy at WOW was that women's success was contingent on their access to new career paths in nontraditional occupations. WOW used a two-track program that enabled participants with stronger academic skills to pursue a general technical course covering basic electricity and mechanics--intended to facilitate entry into nontraditional occupations--while those

with weaker skills or no interest in nontraditional careers took a general employability course stressing remediation of basic skills. Although the program provided counseling about child care subsidies, unlike the other MFSP projects, it did not directly assist participants in applying for child care subsidies or finding slots.

B. RESULTS AFTER 30 MONTHS AND PURPOSE OF 60-MONTH FOLLOW-UP REPORT

At the end of the 30-month follow-up period, CET was identified as having the most effective of the four programs implemented during the MFSP demonstration (Burghardt et al. 1992). The CET program led to significant increases in average monthly earnings, average hourly earnings, and percentage ever employed during the last 12 months of the 30-month follow-up period. CET also led to a higher rate of GED attainment among those lacking high school credentials than occurred in the control group. Moreover, a benefit-cost analysis projected that only the CET program would provide benefits to society over five years that outweigh the cost of program services (Burghardt et al. 1992). The AUL and OIC programs had no effects on post-training employment, earnings, or welfare receipt over the 30-month follow-up period. Surprisingly, these programs also did not result in higher rates of GED attainment, despite their relative emphasis on that goal. The program at WOW produced modest gains in employment, but the impacts followed an inconsistent pattern over time that raised questions about the reliability of the findings.

The distinctive training approach offered by CET, combined with the strong impacts of the program, have led to policymakers' considerable interest in the CET program model. Therefore, the Rockefeller Foundation decided to fund a 60-month follow-up survey of the sample at CET, to determine whether the promising impacts persist. This report presents findings from the analysis of the 60-month follow-up data on the impacts of the CET program on employment, earnings, welfare receipt, and educational attainment during the five years after application.

II. THE CET SAMPLE

The application process for all of the MFSP projects required a baseline interview, which covered demographic characteristics, household composition, employment, training, and income sources during the year preceding application. To assess program impacts, members of both the treatment and control groups at CET were interviewed at fixed intervals, approximately 12, 30, and 60 months after application. These follow-up interviews covered training, education, employment, child care, household composition, and personal outlook over the period since the last interview.

This chapter uses data from the baseline interview to present background information on the characteristics of the 60-month CET interview sample at the time of program application. It also uses data from the follow-up interviews to trace the experience of the control group over 60 months, to illustrate how the lives of women who were not offered the chance to participate in the MFSP program changed.

A. THE 60-MONTH SAMPLE

At CET, 962 single mothers sought employment-related services between November 1984 and December 1987. During the 60-month follow-up period, it became increasingly difficult to locate these women, because many had moved since applying. Seventy-seven percent of the original CET sample was located and interviewed for the 60-month follow-up; response rates were the same for the treatment and control groups.¹ Baseline characteristics of the 60-month sample closely match those of the original CET sample.²

¹Not all interviews were conducted during the target month. The 12-month and 30-month interviews generally were conducted between one and three months later than originally scheduled. The 60-month interview was conducted one to six months after the 60-month follow-up date. Table A.1 in Appendix A provides details on the size of the interview sample at each follow-up point.

²See Appendix Table A.2. Note that the 60-month interview sample is not a subset of the 30-month interview sample. Eighty-four respondents completed a 60-month interview but not a 30-month interview, whereas 115 respondents completed a 30-month interview but not a 60-month interview.

The average age of sample members at the time of program application was 29 years, and most applicants had one or two children. The average age of the youngest child was 5 years. About one-half of the women had been married. More than 70 percent applied at the main CET training center, in San Jose; the remainder applied at nearby CET sites in Salinas, Watsonville, Gilroy, and Oakland. About three-fourths of CET applicants overall and in San Jose were Hispanic. The Oakland site served a largely African American population, and the other satellite sites served Hispanic clients almost entirely.³

The women who applied to the CET program were educationally and economically disadvantaged. On average, the highest grade completed was 10th grade; less than one-half of the women had either a high school diploma or GED. Only one-half of the applicants had worked during the year preceding the baseline interview. Furthermore, those who had worked had done so intermittently; sample members had worked an average of 13 weeks--or about half the year for those who worked. Nonetheless, 85 percent of the sample had some prior employment experience. Twenty-six percent had received training as of the time of application. During the prebaseline year, average household income (including public assistance income) was about \$11,000, which was close to the poverty level for a family of three. About 70 percent of applicants received public assistance during the year before applying to the program.

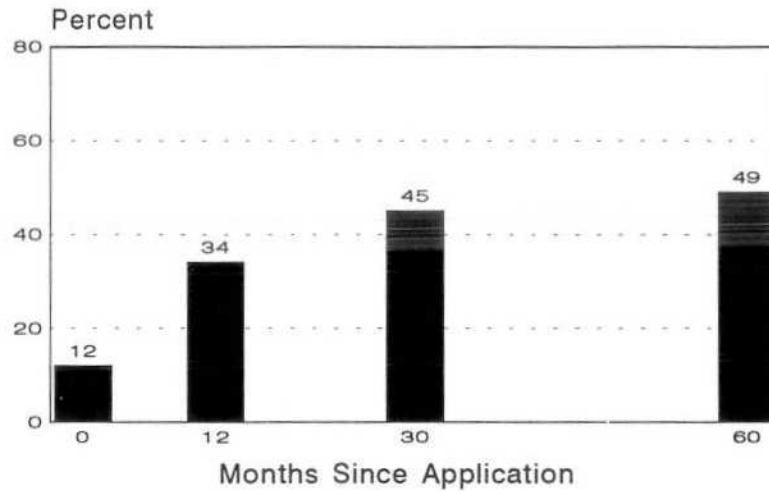
B. THE EXPERIENCE OF THE CONTROL GROUP OVER FIVE YEARS

During the five-year period after application to the CET program, control group members steadily increased their rate of employment and reduced their dependence on welfare (Figure II.1). During the prebaseline year, 47 percent of control group members were employed, but only

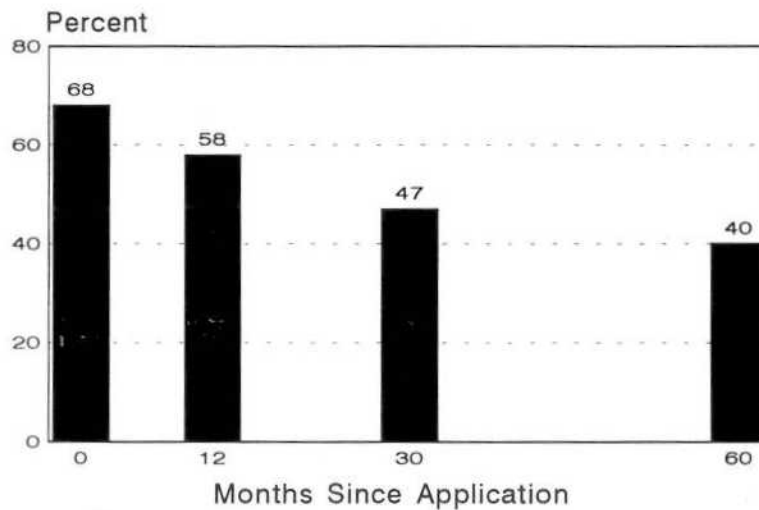
³See Appendix Table A.2 for the breakdown of sample members by location and ethnicity. The ethnic breakdown for applicants at each location is presented in Appendix Table F.6 of Gordon and Burghardt (1990).

FIGURE II.1

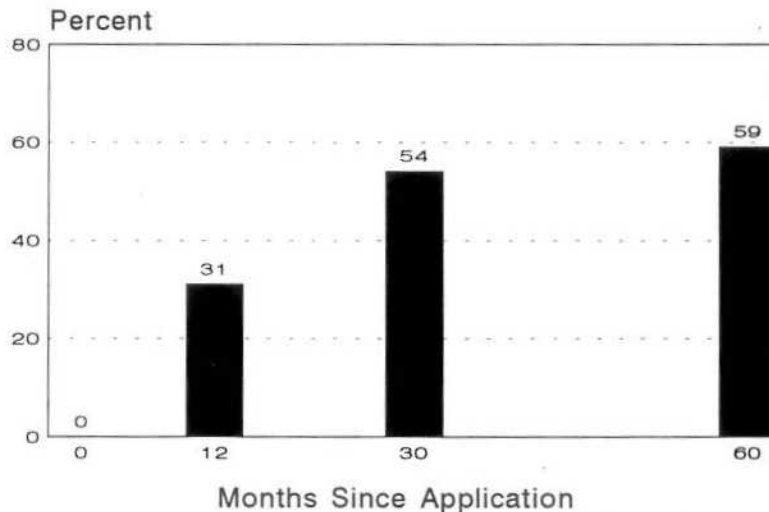
TRENDS OVER TIME IN EMPLOYMENT, WELFARE RECEIPT,
AND RECEIPT OF EDUCATION OR TRAINING
BY CET CONTROL GROUP MEMBERS



Percent
Employed



Percent
Receiving
AFDC



Percent in
Training or
Education
Since
Application

SOURCE: Baseline interview and 12-, 30-, and 60-month follow-up interviews with MFSP program applicants at CET. The sample at each interview point includes all respondents who have completed the respective interview.

12 percent were working at the time of program application. Thirty-four percent were working one year after application, 45 percent were working 30 months after application, and 49 percent were working five years after. Although about two-thirds of the sample received Aid to Families with Dependent Children (AFDC) or other public assistance at baseline, this figure had declined to 47 percent at the 30-month follow-up, and to 40 percent at the 60-month follow-up.

Many control group members sought and found education or job training elsewhere after having been denied access to the CET program. During the year after application, fully 31 percent of the control group participated in education or training. With time, increasing numbers of the control group entered these programs. By the end of the fifth year after application, at least 59 percent had participated in some type of education or job training program (Figure II.1).⁴

Many factors potentially explain the improvement in the economic situation of the control group. One possibility is that sample members applied to the MFSP program at an unusually low point in their lives, so that some improvement in their situations would be likely to occur even without program participation. A second possibility is that those who applied to the program might have been highly motivated to improve their situations. The high participation rate of control group members in other education and training programs is one indicator that these individuals were, in fact, motivated to seek opportunities to improve their lives.

A third possibility is that the women's circumstances changed because barriers to employment eased over time (as their children got older) and/or because access to other education and training opportunities improved. In particular, California's welfare employment program, known as GAIN (Greater Avenues to Independence), began operations in 1986. GAIN funds education and employment-related services to women on welfare and subsidizes child care during the women's

⁴This figure is a minimum, because the 60-month interview asked only about education and training during the fifth follow-up year; thus, we do not have information for an 18-month period. In addition, the participation rate is calculated on the basis of the full sample, including sample members for whom data are missing. Extensive data on education and training are missing for the 60-month sample (see Chapter V).

training and first year of employment (Riccio et al. 1989). About 3 percent of the control group members (and some treatment group members) reported participating in GAIN during the fifth follow-up year; others may have received GAIN funding for training but reported the name of the direct service provider.

Most control group members remained single mothers of school-age or preschool-age children. Essentially all of these women were unmarried or separated at the time of application; by 60 months after application, 21 percent were married. Although children present at baseline had grown older, many women in the control group had additional children. Eighteen percent had a child living with them born during the first 30 months after application, and 33 percent had a child born during the second 30 months. By the 60-month interview, 41 percent had had at least one child since applying to CET, which also implies that about 41 percent had a child younger than 5 years of age. Thus, many of these women continued to face the challenge of supporting young children without the help of a spouse.⁵

The changes in the lives of the control group members illustrate what would have happened to the treatment group if the MFSP program had not been available and indicate the importance of a random assignment evaluation in isolating program impacts. For the program at CET to continue to have positive impacts, treatment group members must continue to make more progress than control group members over time. However, the increasing availability of services from the GAIN program and from other programs that were similar in some ways to CET suggests that the treatment-control comparison takes on a new interpretation: it is more a comparison of the effects of the type of training available through CET with the effects of other approaches than a comparison with a situation in which no alternative training is available.

The next three chapters compare treatment group and control group outcomes, to assess the impacts of the CET program over the five-year follow-up period.

⁵Data on marriage and children are presented in Appendix Table A.3, for both treatment and control group members. There are no significant treatment-control differences in these variables.

III. IMPACTS ON EMPLOYMENT AND EARNINGS

The MFSP program at CET had significant impacts on average monthly earnings, average hourly wages, and the employment rate in the year preceding the 30th month after application--the last year for which follow-up data collection originally was planned. Observers have been interested in whether the impacts of the CET program would persist beyond 30 months.

During the fifth year after application, the average monthly earnings of the treatment group were still significantly greater than those of the control group; treatment group members earned an average of \$667 per month, or \$95 per month more than did control group members. Relative to control group members, treatment group members were also more likely to be employed, worked more hours, and earned higher hourly wages, although treatment-control differences in these outcomes are not statistically significant. Although the treatment-control earnings differential narrowed in percentage terms between the 30-month and 60-month follow-ups, as the earnings of control group members increased more rapidly than did those of treatment group members, it remained substantial at 17 percent of the control group mean. However, the employment and earnings impacts in the fifth year appear to be concentrated among sample members with at least 12 years of schooling at application.

The first section of this chapter presents our analysis of program impacts on employment and earnings. We describe fifth-year impacts and then place these impacts in the context of trends in impacts over the full, five-year period. In addition, we consider how the impacts of the CET program vary across key subgroups. As in previous reports, the impacts of the CET program are derived from regression-adjusted differences in the mean outcomes for the treatment and control groups. The regression model and estimation methods used are the same as those described in previous reports (Gordon and Burghardt 1990; and Rangarajan et al. 1992).

The second section compares characteristics of jobs held by treatment and control group members at 30 and 60 months after application, including occupations, fringe benefits, and job tenure.

These contrasts provide additional insight into the effects of the CET program on career paths, job quality, and employment stability.

A. FIVE-YEAR IMPACTS OF THE CET PROGRAM ON EARNINGS AND EMPLOYMENT

1. Impacts During the Fifth Year After Application

During the fifth year after application, the treatment group worked more and earned more than did the control group. The treatment-control difference in average monthly earnings (\$667 versus \$572) is statistically significant at the 90 percent level (Table III.1). The estimated earnings impact of \$95 per month is 17 percent of the control group mean. Differences in several dimensions of employment activity contribute to the difference in average monthly earnings, although none of these differences is statistically significant when considered singly.

Treatment group members worked more hours each month (85 hours, versus 77 hours for control group members), because more held jobs at any given time, and because they worked slightly more hours when they did have a job. However, this 9 percent difference in hours worked is not statistically significant. During the fifth year after application, an average of 53 percent of the treatment group was employed during any given month, compared with 50 percent of the control group. (This difference of roughly 6 percent is not statistically significant.) The remaining difference in the number of hours worked is explained by the greater number of hours worked by those with jobs among the treatment group than among the control group, which may indicate either steadier employment or more full-time work.

About 64 percent of both the treatment group and the control group worked at some point during the year. The fact that more treatment group members worked during a typical month, but that equal numbers of treatment group members and control group members worked over time, implies that treatment group members worked more steadily. Another indicator of their steadier

TABLE III.1
IMPACTS ON EMPLOYMENT-RELATED OUTCOMES AT CET DURING
THE FIFTH YEAR AFTER APPLICATION
(Standard Errors Are in Parentheses)

	Control Group	Treatment Group	Impact	
Average Monthly Earnings (Dollars)				
Quarters 17-20	572	667	95 *	(51)
Quarter 17	577	650	73	(53)
Quarter 18	565	666	101 *	(53)
Quarter 19	563	693	130 **	(53)
Quarter 20	576	658	82	(54)
Average Monthly Hours				
Quarters 17-20	77.4	84.6	7.2	(5.9)
Quarter 17	77.9	84.6	6.6	(6.4)
Quarter 18	76.8	85.4	8.6 *	(6.3)
Quarter 19	76.1	86.9	10.7 *	(6.3)
Quarter 20	77.2	81.2	3.9	(6.3)
Average Monthly Percent Employed				
Quarters 17-20	49.8	52.6	2.8	(3.4)
Quarter 17	49.9	52.4	2.5	(3.7)
Quarter 18	49.9	53.0	3.2	(3.6)
Quarter 19	48.6	54.2	5.6	(3.6)
Quarter 20	49.5	50.4	0.9	(3.7)
Percent Ever Employed				
Quarters 17-20	63.9	63.5	-0.4	(3.6)
Average Number of Months Employed				
Quarters 17-20	5.9	6.3	0.5	(0.4)
Average Hourly Earnings (Dollars)				
Quarters 17-20	7.29	7.61	.32	(.24)
Quarter 17	7.42	7.48	.05	(.28)
Quarter 18	7.22	8.06	.84 *	(.46)
Quarter 19	7.45	7.94	.49 *	(.27)
Quarter 20	7.40	7.91	.51 *	(.27)
Sample Size	315	423	--	--

SOURCE: Sixty-month follow-up interviews with MFSP program applicants at CET.

NOTE: Estimates for each site are based on ordinary least squares regression models in which the personal characteristics and baseline attributes of the person, binary variables for the quarter of sample enrollment, and research status are included. The number of observations in each regression is 1 percent to 3 percent less than the total, due to the exclusion of cases for which data were missing.

*/**/** Indicate that the impact sample is statistically different from zero at the 90/95/99 percent confidence levels.

work is that treatment group members worked an average of 6.4 months, whereas control group members worked an average of 5.9 months.¹ (The difference is not significant.)

Members of the treatment group earned higher hourly wages than did members of the control group. Treatment group members who worked earned an average of \$7.61 per hour, whereas control group members who worked earned an average of \$7.29 per hour--a difference of \$0.32 (not significant). Because the employment rates of the two groups were very similar, adjusting the estimate (with standard selection-bias adjustment methods) to reflect the fact that hourly wages are observed only for treatment and control group members who worked does not materially change this difference.²

Although the average fifth-year treatment-control differences in hours worked, employment rates, and hourly wages are not significant at conventional levels, the quarterly estimates are positive and roughly similar in size for at least three of the four quarters and, in some quarters, are statistically significant (Table III.1). Furthermore, all of these insignificant differences combined contribute to the significant earnings impact. For these reasons, it seems unlikely that these differences have arisen by chance.³

¹Among those who ever worked during the year, treatment group members worked an average of 10 months (6.4 months/.64), and control group members worked an average of 9.2 months (5.9 months/.64).

²The adjustment model is discussed in appendices to Gordon and Burghardt (1990) and in Rangarajan et al. (1992). When no selection-bias adjustment was made, the regression-adjusted estimated impact was \$0.33 (not significant). Because there was no evidence of selection bias, the estimates of treatment group and control group mean wages are derived from the unadjusted model.

³In general, the 60-month estimates have larger standard errors than do the estimates from earlier periods, even after allowing for the slight decrease in sample size. The larger standard errors result from increasing variation in the outcome variables, as sample members' incomes become more dissimilar over time, and because the baseline characteristics controlled for in the regressions are increasingly less correlated with the outcomes of interest, also due to the passage of time.

Examining the entire distribution of monthly earnings of the treatment and control groups provides another perspective on the sources of the difference in average monthly earnings (Table III.2). Control group members were significantly more likely to have earnings of less than \$800 per month, both groups are roughly equally represented in the earnings range of \$800 to \$1,200 per month, and treatment group members were significantly more likely to have earnings of more than \$1,200 per month. Furthermore, the earnings distribution of the treatment group is more widely dispersed than that of the control group. In particular, a few members of the group earned more than \$2,800 per month, whereas no control group members' earnings are in this range. These high-end observations were carefully examined and appear to be coded correctly; they represent individuals who have attained professional or managerial jobs.

2. Trends in Five-Year Employment and Earnings Impacts

Table III.3 and Figure III.1 place impact estimates for the fifth year after application (quarters 17 through 20) in the context of estimates for two earlier periods: (1) the first year after application (quarters 1 through 4); and (2) the period from 18 months through 30 months after application (quarters 7 through 10).⁴ Although the data do not cover the full follow-up period, and the samples for the three periods differ, it is possible to assess in general how the impacts of the CET program have changed over time.

During the first follow-up year, the CET program provided treatment group members with access to training, education, support services, and job search assistance. Members of the control group could seek employment, training, and educational opportunities through other sources. Data for the full year indicate roughly similar--and very low--earnings and employment rates for both groups (Table III.3). These data, however, obscure the changes that occurred during that year. Initially, treatment group members mostly were in training, and more members of the control group than the

⁴These data are for the years preceding the previous follow-up interviews and, thus, are likely to be more reliable than data for longer recall periods.

TABLE III.2
DISTRIBUTION OF AVERAGE MONTHLY EARNINGS OF THE
CET SAMPLE IN QUARTERS 17 THROUGH 20
(Dollars)

	Control Group	Treatment Group
Average Monthly Earnings		
0	35.9	36.8
1-400	17.6	12.6 *
401-800	12.4	8.4 *
801-1,200	16.0	15.5
1,201-1600	9.8	14.6 *
1,601-2,000	5.2	9.3 **
2,001-2,400	2.6	1.4
2,401-2,800	0.3	0.7
2,801-3,200	--	0.5
3,201-3,600	--	0.0
>3,600	--	0.2
Cumulative Distribution of Average Monthly Earnings		
0	35.9	36.8
<400	53.6	49.4
<800	66.0	57.8 **
<1,200	82.0	73.3 ***
<1,600	91.8	87.8 *
<2,000	97.1	97.1
<2,400	99.7	98.6
<2,800	100.0	99.3
Sample Size	315	423

SOURCE: Sixty-month follow-up interviews with MFSP program applicants at CET.

*/**/*** Indicate that the treatment-control difference is statistically different from zero at the 90/95/99 percent confidence levels.

TABLE III.3

IMPACTS ON EMPLOYMENT-RELATED OUTCOMES AT CET
(Standard Errors Are in Parentheses)

	Quarters 1-4 (12-Month Follow-Up)			Quarters 7-10 (30-Month Follow-Up)			Quarters 17-20 (60-Month Follow-Up)		
	Control Group	Treatment Group	Impact	Control Group	Treatment Group	Impact	Control Group	Treatment Group	Impact
Average Monthly Earnings (Dollars)	234	268	34 (23)	405	506	101 ** (38)	572	667	95 * (51)
Average Monthly Percent Employed	30.5	30.5	0.0 (-0.2)	42.0	46.1	4.1 (2.9)	49.8	52.6	2.8 (3.4)
Percent Ever Employed	51.6	61.8	10.3 *** (3.3)	57.4	66.0	8.6 ** (3.4)	63.9	63.5	-0.4 (3.6)
Average Number of Months Employed	3.6	3.6	0.0 (0.3)	5.0	5.5	0.6 (0.4)	5.9	6.3	0.5 (.4)
Average Monthly Hours	41.6	43.1	1.5 (3.5)	65.0	73.3	8.2 (5.1)	77.4	84.6	7.2 (5.9)
Average Hourly Earnings (Dollars) ^a	4.55	5.27	0.71 *** (.18)	6.01	6.65	0.64 ** (.22)	7.29	7.61	.32 (.24)
Sample Size	345	467	--	329	440	--	315	423	--

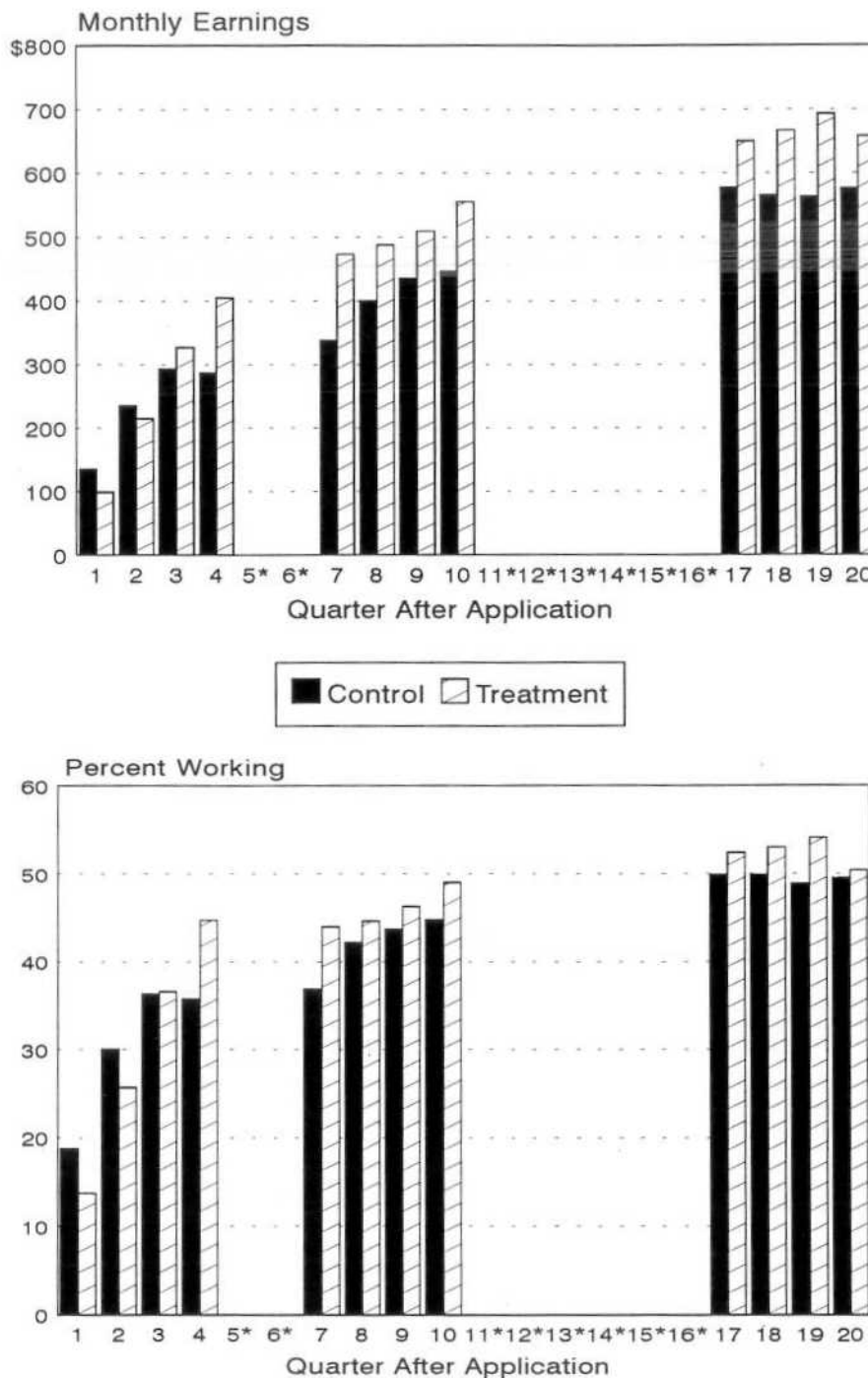
SOURCE: Data for quarters 1 through 4 are taken from the 12-month follow-up interviews with MFSP program applicants at CET, data for quarters 7 through 10 are taken from the 30-month follow-up interviews at CET, and data for quarters 17 through 20 are taken from the 60-month follow-up interviews at CET. Samples for the 30- and 60-month interviews include some individuals who did not complete the earlier interviews.

NOTE: Estimates for each site are based on ordinary least squares regression models in which the personal characteristics and baseline attributes of the person, binary variables for the quarter of sample enrollment, and research status are included. The number of observations in each regression is 1 percent to 3 percent less than the total, due to the exclusion of cases for which data were missing.

^aEstimates are corrected for unobserved differences (selection bias) between women in the treatment group who worked and women in the control group who worked.

*/**/** Indicate that the impact estimate is statistically different from zero at the 90/95/99 percent confidence levels.

FIGURE III.1
AVERAGE MONTHLY EMPLOYMENT AND EARNINGS
OF THE CET SAMPLE



SOURCE: Baseline interview and 12-, 30-, and 60-month follow-up interviews with MFSP program applicants at CET.

NOTE: Plots are based on regression-adjusted mean estimates. Quarters 1 through 4 were derived from data on all respondents with a 12- or 30-month interview, estimates for quarters 7 through 10 were derived from data on all respondents with a 30-month interview, and estimates for quarters 17 through 20 were derived from data on all respondents with a 60-month interview.

*Quarters 5 and 6 and 11 through 16 are omitted due to the long recall period and the higher probability of error.

treatment group entered employment (Figure III.1). After completing the CET program, many treatment group members were placed in jobs. Thus, during the fourth quarter after application, the employment rate and earnings of the treatment group jumped very sharply relative to those of the control group; treatment group members earned nearly 50 percent more than did control group members during that quarter.

Between the fourth quarter and the end of the 30-month follow-up period (quarter 10), both treatment group and control group members steadily increased their employment and earnings. The treatment-control difference in earnings during quarters 7 through 10 averaged \$101 per month, or about 25 percent of the control group mean (Table III.3). Thus, in percentage terms, control group members had begun to catch up with treatment group members.

When we compare fifth-year outcomes with outcomes for the last year of the 30-month follow-up period, we find that earnings of both groups increased substantially (Table III.3). However, control group members' earnings increased at a higher rate than did those of treatment group members. Consequently, in percentage terms, the difference in earnings between the two groups narrowed to about 17 percent. The average regression-adjusted monthly earnings of control group members increased 41 percent, from \$405 to \$572, while the average regression-adjusted monthly earnings of treatment group members increased 32 percent, from \$506 to \$667. The average monthly percentage of control group members employed increased from 42 percent to 50 percent (an increase of about 19 percent), and the average hourly wage of control group members who worked increased from \$6.01 to \$7.29 (a gain of \$1.28 per hour, or about 21 percent). The average monthly percentage of treatment group members employed increased from 46 percent to 53 percent--an increase of about 14 percent. The average hourly wage of treatment group members who worked increased from \$6.65 to \$7.61 (a gain of \$0.96 per hour, or about 15 percent).

It is interesting to note that the quarterly trends in employment and earnings for both groups during the 60-month follow-up period are quite flat, especially when compared with earlier periods (Figure III.1). Possible explanations for this finding include the relatively low inflation rate and high

unemployment rate during the 60-month follow-up period (which largely coincides with the years 1990 through 1992) compared with earlier years, and the fact that many treatment group and control group members no longer were new entrants in their jobs, which is generally the period of steepest earnings growth.

Many factors might explain the narrowing of treatment-control differences over time. With time, experiences other than the CET program, such as birth of a child or move to a new neighborhood, might more directly influence sample members' lives. Furthermore, over time, control group members have more opportunities to find the type of training denied to them at CET, or to move into better jobs. Nevertheless, a 17 percent impact on average earnings after five years is a substantial long-term effect for a six-month training program.

3. Impacts on Employment and Earnings by Subgroup

We also analyzed the impacts of the MFSP demonstration at CET on the employment and earnings of key subgroups in quarters 17 through 20 (Table III.4).⁵ Estimates of impacts for specific subgroups can be useful in targeting future interventions and in understanding how and why impacts for the whole sample emerge. However, it is important to note that the evaluation was not designed to measure the impacts of the demonstration on different groups, especially after five years. Thus, the sample sizes within the subgroup categories are small, and the variances of the subgroup impacts are generally large. Results may be sensitive to minor changes in the sample or the subgroup definitions.

⁵Subgroup impacts were estimated by including interactions between treatment status and an indicator of membership in a particular subgroup in the estimating equations, so that impacts of the program were allowed to differ by subgroup. See Rangarajan et al. (1992) for further details on models used.

TABLE III.4

IMPACTS ON AVERAGE MONTHLY EMPLOYMENT AND EARNINGS IN QUARTERS
17 THROUGH 20: SELECTED SUBGROUPS AT CET

Subgroup/Characteristic	Sample Size ^a	Average Monthly Employment Rate Quarters 17-20			Average Monthly Earnings Quarters 17-20		
	Control/ Treatment	Control Group	Treatment Group	Impact	Control Group	Treatment Group	Impact
Family Structure							
Age of Youngest Child at Application (Years)							
0-2	114/149	55.7	53.3	-2.4	\$661	712	\$51
3-5	87/113	43.4	48.9	5.6	460	570	111
≥ 6	107/150	48.8	54.5	5.7	566	692	126
Education							
Years of Schooling at Application				b **			b **
<12 years	214/282	50.3	49.1	-1.2	574	588	14
≥12	101/141	48.6	59.6	11.0 *	563	824	261 ***
Work and Welfare in the Year Before Application							
Weeks Worked							
0	167/212	40.7	47.9	7.2	438	580	142 **
1-26	69/100	58.6	53.0	-5.6	692	685	-7
27-52	79/111	61.3	61.9	0.6	751	827	76
Received Welfare							
Yes	224/282	47.1	50.2	3.1	546	643	97
No	91/141	55.9	57.9	2.0	630	719	89
Work and Welfare				b ***			
Received Welfare Continuously and Did Not Work	121/146 43/54	33.4 56.0	50.1 46.2	16.6 *** -9.8 *	390 616	605 613	216 *** -3
Combined Work and Welfare Worked and Did Not Receive Welfare	77/111	64.6	67.4	2.8	779	853	74

TABLE III.4 (continued)

Subgroup/Characteristic	Sample Size ^a	Average Monthly Employment Rate Quarters 17-20			Average Monthly Earnings Quarters 17-20		
	Control/ Treatment	Control Group	Treatment Group	Impact	Control Group	Treatment Group	Impact
Race							
Non-African American	262/370	50.4	53.5	3.1	579	681	102 *
African American	53/53	46.3	47.2	0.9	525	577	52
CET Location							
San Jose	214/323	52.7	53.3	0.5	629	700	71
Salinas, Watsonville, and Gilroy	75/78	45.7	59.0	13.3 *	490	668	178
Oakland	26/22	31.0	26.4	-4.6	227	301	74

Source: Baseline and 60-month follow-up interviews with MFSP program applicants at CET.

NOTE: Separate least squares regressions were estimated for each category of subgroups. All control variables were included, along with the subgroup-status interactions as independent variables. Predicted values of treatment and control group members are evaluated at the sample means for all variables except for the variables that define the subgroup.

^aThis column presents subgroup sample sizes for the control and treatment groups, for the 60-month follow-up sample.

^b*/**/*** Indicate that the impacts for the subgroups are significantly different from each other at the 90/95/99 percent confidence levels, based on a joint F-test of subgroup-status interactions.

*/**/*** Indicate that the impact estimates are significantly different from zero at the 90/95/99 percent confidence levels.

Subgroups were defined in terms of characteristics of sample members, and when timing was relevant, the characteristics were measured as of the time of application to CET. The sample was divided into groups on the basis of the age of the youngest child, years of schooling, work and receipt of welfare in the year before application, race, and the CET location at which the sample member applied. For each characteristic, we conducted statistical tests to examine whether differences in impacts across the subgroups were significant, and to examine whether the net impacts within each subgroup differed significantly from zero.

We find the effects of CET on the employment and earnings of women who had not completed high school at application were negligible by the fifth year after application, whereas the effects on the employment and earnings of women with a high school education remained substantial. Although impacts vary widely across other sample subgroups, the differences are not generally statistically significant and may reflect sampling variability.

Family Structure. The impacts on monthly employment rates and earnings among women with children who were age 3 to 5 years and age 6 years or older at application were greater than those among women with children younger than 3 years. However, the impacts for the three groups are not significantly different from each other.

Education. Fifth-year employment and earnings impacts on those with 12 years or more of schooling at application were significantly greater than impacts on those with less than 12 years of schooling at application. Among women with less than 12 years of education at baseline, employment and earnings impacts were close to zero (and not statistically significant). However, among sample members with 12 or more years of education at baseline, the monthly employment rate of treatment group members was 11 percentage points greater than that of members of the control group in the fifth follow-up year (a 23 percent impact), and monthly earnings were \$261 higher (a 46 percent

impact).⁶ Thus, most of the fifth-year impacts on employment and earnings were concentrated in the high-school-educated group.⁷

Work and Welfare Receipt Prior to Application. The fifth-year impacts on employment and earnings did not follow clear patterns among subgroups defined by work experience or welfare receipt in the year prior to application. In particular, it is puzzling that the point estimates suggest no long-term earnings effects for women with middle levels of recent work experience at application, but positive effects for women with higher and lower levels of work experience. In general, the estimates are not very precise, and thus, we cannot reject the hypothesis that the impacts for the groups do not differ. (However, the estimates of effects on employment rates are significantly different across the groups defined by combined work and welfare experience.)

Race and Program Location. There are no significant differences in the fifth-year employment or earnings impacts on African Americans versus non-African Americans, or across the CET locations. Although the point estimates vary considerably, we cannot reject the hypothesis that these differences reflect sampling error, because the African American subgroup and the subgroups who attended CET locations other than San Jose are very small.

Comparison with 30-Month Subgroup Impacts. The broad picture that emerges from the subgroup analysis is quite different at 30 months and at 60 months. At 30 months after application, although sample sizes were too small to provide statistically significant estimates, earnings impacts were positive for most subgroups (Burghardt et al. 1992). At 60 months, earnings impacts exhibited

⁶The 60-month follow-up sample includes 84 respondents who could not be located for a 30-month follow-up interview and does not include 115 respondents with 30-month interviews who could not be located for the 60-month interview. However, the 30-month and 60-month results with respect to the education subgroups are essentially the same when estimated using only the sample that completed both interviews; in particular, we still find a significant impact on the low-education group in quarters 7 through 10, but no impact in quarters 17 through 20.

⁷The difference in impacts by education level is also statistically significant when we look at the percentage of the sample employed at any time during the fifth follow-up year. Among those with more than 12 years of school at baseline, 69 percent of treatment group members and 60 percent of control group members worked some time during the fifth follow-up year. In contrast, among those with less than 12 years of schooling, 61 percent of treatment group members and 66 percent of control group members worked during the year.

greater variation across groups, although those differences are not generally statistically significant and may reflect sampling variability. Nonetheless, the results suggest that the effects of CET on the earnings of women with low levels of education, which were significant and positive in the year before the 30-month interviews, had diminished over time. In contrast, the effects on women with at least 12 years of schooling remained substantial. Comparison over time of employment rates and earnings of those with and those without at least 12 years of schooling suggests that, between the 30-month and 60-month follow-up periods, employment and earnings increased much faster for high-school-educated treatment group members and for high-school-dropout control group members than for members of the other groups. The CET program may have been more effective at helping those who had more education to maintain a long-term commitment to the labor market, whereas other welfare-employment programs may have been especially likely to push control group members having lower education levels into jobs.

B. JOB CHARACTERISTICS

Impacts on earnings and employment are the primary measures for evaluating the effects of a program such as CET, which is directed at enhancing participants' employment skills and improving their economic self-sufficiency. Data on other job characteristics provide a broader picture of how effectively the CET program moves women into stable, secure jobs offering benefits and relatively pleasant working conditions.

However, one caution is that comparisons of job characteristics are inevitably comparisons of treatment and control group members with jobs. The subsets of the treatment and control groups with jobs at any point are self-selected and, therefore, do not necessarily have similar observed and unobserved characteristics. Nonetheless, such comparisons provide useful insights into the types of jobs that the women who applied to CET later obtained. (Furthermore, the similarity in the employment rates of the two groups at 30 and 60 months suggests that self-selection bias is likely to be small.)

1. Occupations

Although control group and treatment group members were employed in significantly different clusters of occupations 30 months after application, the occupational distributions of the groups were no longer significantly different by 60 months after application (Table III.5). In general, control group members attained types of occupations similar to the types held by treatment group members, whereas the occupations of treatment group members changed little. This convergence is especially marked for the two most common occupation groups: (1) secretarial and administrative support jobs; and (2) production (factory) jobs. Between 30 and 60 months after application, the proportion of control group members in production jobs decreased from 21 percent to 17 percent, and the proportion in secretarial and administrative support positions increased from 30 percent to 37 percent. Over the same period, the proportion of treatment group members in production jobs remained basically unchanged, at 15 percent to 16 percent, and the proportion in secretarial and other administrative support positions decreased slightly, from 44 percent to 39 percent. Comparison of occupations held by individuals over time shows that the increase in clerical jobs among the control group resulted from movement into clerical jobs by control group members who were not working during month 30 (data not shown).⁸

Because most CET participants received secretarial and/or word processing training, the concentration of treatment group members in secretarial and administrative support roles at 30 and 60 months after application may reflect their training. However, many control group members also appear to have obtained such training and to have moved into secretarial/word processing employment, as evidenced by the similar proportions of both groups holding secretarial and administrative support positions at 60 months after application. The convergence in occupations is

⁸The net gain in clerical workers in the control group consisted entirely of women who were not working at month 30; in contrast, the number of clerical workers in the treatment group was essentially unchanged. The composition of the clerical worker subsets of the treatment and control groups changed considerably over time. Only 40 percent of control group clerical workers in month 60 also had reported clerical jobs in month 30. In contrast, 64 percent of treatment group clerical workers in month 60 also had reported clerical jobs in month 30.

TABLE III.5
OCCUPATIONS AND FRINGE BENEFITS AT 30 AND
60 MONTHS AFTER APPLICATION
(Percent)

	30 Months After Application		60 Months After Application	
	Control Group	Treatment Group	Control Group	Treatment Group
Occupation of Current Job	*			
Manager, Professional, or Technical	3.5	2.5	3.9	5.2
Sales	11.9	5.6	11.0	6.6
Secretary or Other Administrative Support	29.4	43.7	36.8	39.4
Private Household Worker	2.1	1.5	2.6	2.4
Protective Service	0.7	1.0	0.7	0.9
Food and Beverage Preparation and Service	2.8	4.1	4.5	4.2
Health Service	4.9	5.1	5.8	11.3
Cleaning and Building Service	5.6	7.1	3.9	4.7
Personal Service	2.8	1.5	1.3	2.4
Farming or Agriculture-Related	7.0	1.5	7.7	1.9
Mechanic, Construction, or Craft	0.0	0.0	0.0	0.9
Production	21.0	16.2	16.8	15.0
Transport	0.7	0.5	2.6	0.5
Handler, Helper, or Laborer	3.5	6.6	2.6	4.7
Military	0.0	0.2	0.0	0.0
Benefits Received in Current Job				
Health Insurance	50.8	58.6	59.5	64.9
Paid Sick Leave	44.0	47.6	58.9	62.6
Paid Vacation	55.6	54.7	60.0	65.2
Retirement or Pension Benefits	33.1	27.0	51.4	51.3
Child-Care Assistance	2.2	2.6	4.1	2.0
Flex-Time	9.8	11.5	8.1	13.2
Job Offers All Key Benefits ^a	NA	NA	45.2	50.7
Job Does Not Offer Any Key Benefits ^a	NA	NA	29.7	27.7
Tenure on Current Job				
More than 6 Months	NA	NA	70.6	81.7 **
More than 12 Months	NA	NA	62.1	68.1
More than 24 Months	NA	NA	41.2	49.8 *
Sample Size	143	197	155	213

SOURCE: Thirty-month and 60-month follow-up interviews with MFSP applicants at CET.

NOTE: The sample includes all respondents with a 30-month or 60-month follow-up interview who were working at the time of the respective interview.

^aKey benefits are health insurance, paid sick leave, paid vacation, and retirement benefits.

NA = not available.

*/**/*** Indicate that treatment-control differences are statistically significant at the 90/95/99 percent confidence levels. For the category "Occupation of Current Job," a chi-square test for a difference in the distributions of the treatment and control group is used. For the categories "Benefits Received in Current Job" and "Tenure on Current Job," a t-test for the difference in the proportions is used.

consistent with the tendency of control group members to partially "catch up" in earnings and receipt of training.

Two other changes in the occupational distribution between 30 and 60 months after application are of interest. First, at 60 months after application, twice as many treatment group members as control group members had health service jobs, such as home health attendants or lab technicians, although similar percentages of both groups held such jobs at 30 months. Second, between 30 and 60 months after application, the percentage of treatment group members in managerial, professional, or technical positions increased from 2.5 percent to 5.2 percent. Furthermore, several women in that category reported very high earnings. During that period, the percentage of control group members in managerial, professional, or technical jobs remained relatively constant (increasing from 3.5 percent to only 3.9 percent).

Other treatment-control differences in occupational categories are found in both periods. In particular, at 30 and 60 months, control group members were relatively more likely to be in sales or agricultural work, both of which are likely to be low-paying occupations.

2. Fringe Benefits and Job Tenure

A job's fringe benefits are one measure of its quality and stability. The percentage of control and treatment group members receiving various job-related benefits did not differ significantly at either 30 or 60 months after application, although a greater percentage of treatment group members received health benefits at both points in time (Table III.5).

The percentage of both control group and treatment group members receiving job-related benefits increased between 30 and 60 months after application. At 30 months after application, about one-half of employed members of both groups received health insurance, paid sick leave, and paid vacations, and about 30 percent participated in a pension or retirement plan. At 60 months, the percentage of treatment and control group members receiving health insurance had increased by about 8 percentage points, and the percentage receiving sick leave and vacation had increased by a

similar amount. The increase in the percentage receiving retirement or pension benefits was much greater--from about 30 percent to about 51 percent for both control group and treatment group members. Frequently, such benefits as paid vacation or retirement plans do not begin until after six months or one year of continuous full-time employment. Thus, the increase in receipt of benefits over time indicates both that the women in the sample were increasingly attaining jobs that offered benefits and that they were retaining those jobs over time.

Members of the treatment group had slightly higher levels of benefit receipt and longer job tenure. At 60 months after application, treatment group members were more likely to receive health insurance, paid sick leave, paid vacation, and flex-time (although differences are not significant). Eighty-three percent of treatment group members working at the time of the 60-month interview reported holding their current job for six months or longer, compared with 72 percent of control group members. Fifty percent of treatment group members had been in their current job for longer than two years, compared with 41 percent of control group members (Table III.5). The last two differences are statistically significant.

About one-half of those who were working at the time of the 60-month follow-up interview lacked one or more of the key job benefits--health insurance, sick leave, paid vacation, or retirement benefits. About 30 percent of workers in both groups, many of whom were temporary or on-call workers, lacked all four of these key benefits. Thus, substantial proportions of both groups who worked had jobs lacking in key benefits needed for long-term economic security. However, treatment group members had slightly better access to key benefits.

IV. IMPACTS ON PUBLIC ASSISTANCE, TOTAL INCOME, AND HEALTH INSURANCE COVERAGE

One goal of the MFSP project at CET was to reduce the welfare dependence of the women who enrolled. The project sought to increase earned income to the point that total income would increase, so that the women would find it worthwhile to work rather than to receive welfare. We expected treatment group members to receive more welfare income while receiving program services than control group members, because the women in the treatment group were participating in full-time training and education, rather than seeking work. The goal of the program was to reverse this pattern after treatment group members completed training and entered employment. To measure whether the expected patterns of program impacts occurred, in each interview, we asked sample members when they received specific types of income and the average monthly amount for the most recent period of receipt.¹

In this chapter, we describe the impacts of the CET program on sample members' dependence on public assistance as measured five years after application to CET, and at key points during the 60-month follow-up period. We also assess program impacts on unearned income from other sources, total income, and health insurance coverage.

A. IMPACTS ON PUBLIC ASSISTANCE RECEIPT AND INCOME

Public assistance includes AFDC, other cash public assistance (such as general assistance), and food stamps. Because some respondents did not clearly distinguish AFDC and other cash public assistance, we combine the two categories for purposes of analysis. We first present impacts on

¹It is difficult for respondents to remember the amount of income received over long periods. Our estimates of impacts on welfare income and total income focus on the 12th, 30th, and 60th months as the most accurate benchmarks for measuring trends in unearned income. Our estimates of the percentage receiving welfare over time cover the six-month period preceding each benchmark month. (The 60-month interview asked about welfare receipt during the preceding 12 months, but the interviews occurred as long as 6 months after the 60th month. Thus, information was consistently available only for the six-month period preceding the 60th month.)

public assistance at 60 months after application and then discuss trends over time and factors affecting receipt of public assistance.

1. Impacts 60 Months After Application

Although treatment group members consistently received slightly less in benefits than did control group members during the fifth year of follow-up, treatment-control differences in the percentage receiving public assistance and in the amount received are not statistically significant for either AFDC or food stamps, or for both sources combined (Table IV.1). For example, 39 percent of treatment group members and 42 percent of control group members were receiving AFDC and/or food stamp benefits during the 60th month, a difference that is not statistically significant. Treatment group members received an average of \$276 in public assistance benefits, whereas control group members received \$286; this \$10 difference is insignificant.

AFDC accounts for the majority of the total public assistance benefit. Food stamps contribute an average of 17 percent to the total public assistance benefit reported by treatment and control group members.²

2. Trends Over Time

The percentage of both treatment group members and control group members receiving AFDC and food stamps and the dollar value of their benefits decreased during the 60-month follow-up period (Table IV.1). The reduction in total public assistance benefits was driven by the decrease in receipt of AFDC. About one-third of AFDC recipients in both groups were no longer participating in AFDC by 60 months after application. The percentage of treatment group members receiving

²Receipt of public assistance is generally under-reported in survey data. Our analysis found clear evidence that food stamp benefits were under-reported, because some sample members reported receiving AFDC but not food stamps, although all AFDC recipients are automatically eligible for food stamps.

TABLE IV.1

IMPACTS AT CET ON INCOME FROM SELECTED SOURCES AT 12, 30, AND 60 MONTHS AFTER APPLICATION
(Standard Errors Are in Parentheses)

Income Source	12th Month After Application			30th Month After Application			60th Month After Application		
	Control Group	Treatment Group	Impact	Control Group	Treatment Group	Impact	Control Group	Treatment Group	Impact
Percent Receiving in Month									
AFDC and/or Food Stamps	58	57	-1 (3)	50	46	-4 (3)	42	39	-3 (4)
AFDC	57	54	-2 (3)	47	45	-2 (3)	39	36	-3 (4)
Food stamps	43	41	-2 (3)	41	34	-7 ** (3)	39	35	-4 (4)
Amount Received in Month									
AFDC and/or Food Stamps	\$328	\$321	-\$7 (19)	\$318	\$284	-\$34 (23)	\$286	\$276	-\$10 (28)
AFDC	297	287	-10 (18)	279	255	-24 (21)	236	228	-8 (24)
Food stamps	32	34	2 (3)	39	28	-10 ** (4)	50	48	-1.8 (6)
Child Support and Alimony	16	22	6 (6)	26	16	-11 * (6)	25	24	-1 (7)
Other Unearned Income	29	39	9 (9)	37	32	-4 (10)	59	47	-12 (14)
Total Unearned Income	377	384	7 (21)	390	336	-\$54 ** (25)	376	349	-\$27 (30)
Total Earned Income	275	411	136 (33) **	450	551	101 (45)	585	664	79 (56)
Total Monthly Income	653	801	148 (30) **	832	885	53 (38)	969	1015	46 (47)
Sample Size	371	484	-- --	329	440	-- --	315	423	-- --

SOURCE: Baseline, 12-month, 30-month, and 60-month follow-up interviews with MFSP program applicants at CET.

NOTE: All estimates are rounded to the nearest dollar. Estimates for each site are based on ordinary least squares regression models in which the personal characteristics and baseline attributes of the person, binary variables for the quarter of sample enrollment, and research status are included. The number of observations in each regression is somewhat less than the total, due to the exclusion of cases with missing data. Figures for income sources do not sum to total income because different sample members may have been omitted from the calculations for different sources of income. Income in month 29 rather than month 30 was used for the small proportion of the sample whose 30-month interviews occurred in month 29.

*/** Indicate that the impact estimates are significantly different from zero at the 90/95 percent confidence levels. Figures in parentheses are standard errors of the impact estimates.

AFDC decreased from 54 percent at roughly 12 months after application to 36 percent at roughly 60 months; the percentage of control group members receiving AFDC decreased from 57 percent to 39 percent during the same period.

The average AFDC benefit received decreased more slowly than did the participation rate, perhaps because benefits were increased to adjust for inflation, or because higher-benefit families were more likely to continue receiving AFDC.

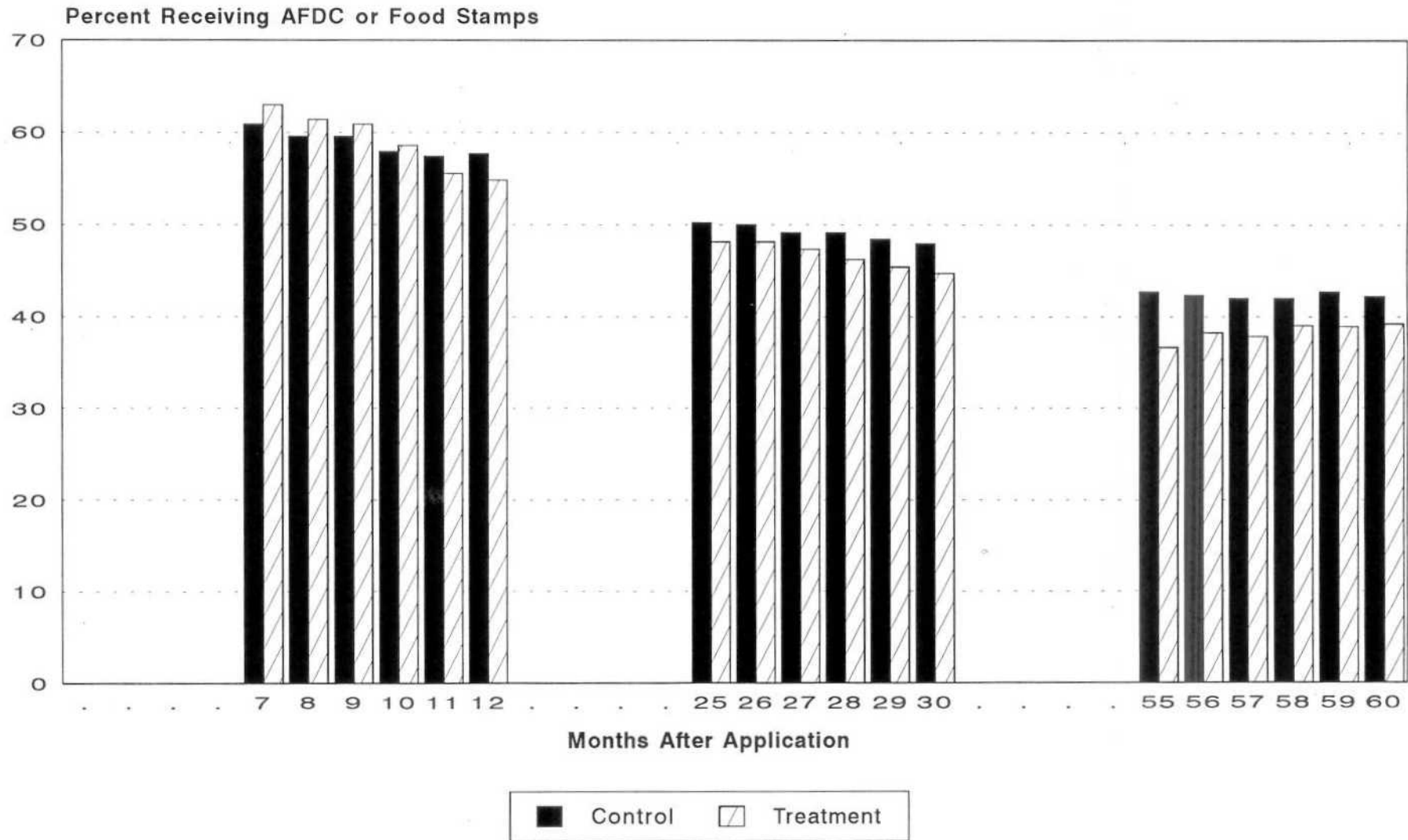
The percentage receiving food stamps and the percentage receiving AFDC did not decrease at the same rate during the 60-month period, most likely because recipients lose AFDC eligibility at a lower level of earned income than they do their food stamp eligibility. In fact, the average dollar value of the food stamp benefit increased, due to Food Stamp Program rules that increase benefits to adjust for inflation and, possibly, to changes in Food Stamp Program eligibility rules during the late 1980s.

Figure IV.1 provides a more detailed picture of the trends in the percentage of the treatment and control groups receiving AFDC, food stamps, or both sources during the 60 months after application, on the basis of data from the last 6 months of each follow-up period. Although treatment-control differences in receipt of public assistance are not statistically significant, we observed a consistent pattern of lower rates of welfare receipt by treatment group members starting at the end of the first year, after treatment group members left the CET program.

B. IMPACTS ON OTHER INCOME SOURCES AND TOTAL INCOME

Earnings and public assistance were the primary sources of sample members' income. However, some sample members also received cash or in-kind income in the form of alimony or child support, disability benefits, Supplemental Security Income, unemployment insurance, heating assistance, training stipends, interest, or rental income. In this section, we review the impacts of the CET program on total income and on the components of income. We then analyze the relationship of the members' income to the poverty level, as a summary measure of self-sufficiency.

FIGURE IV.1
TRENDS IN WELFARE RECEIPT AT CET



SOURCE: Twelve-month, 30-month, and 60-month follow-up interviews with MFSP program applicants at CET.

NOTE: Sample includes only respondents with a 60-month interview. Estimates are simple means.

1. Impacts on Income

Twelve months after application to the CET program, there was no significant difference between treatment and control group members either in public assistance income or in other unearned income, although treatment group members received slightly less public assistance and somewhat more "other" income than did control group members (Table IV.1). The total income of treatment group members exceeded that of control group members by \$148 per month (23 percent of the control group mean), because treatment group members had much higher earnings. During the 12th month after application, treatment group members earned an average of \$411 per month--\$136 more than control group members.

By 30 months after application, income levels had increased for both the treatment and control groups, but the gap in their incomes had diminished. Treatment group members received an average of \$885 per month, or \$53 more than the control group mean income of \$832 per month; however, the difference is not statistically significant. Treatment group members were earning 34 percent more than at 12 months after application and were receiving about 13 percent less in unearned income. Control group members were earning 64 percent more than at 12 months after application but also were receiving about 3 percent more in unearned income. At 30 months after application, public assistance contributed 38 percent of the income of the control group, compared with 32 percent of the income of the treatment group.

At 60 months after application, the treatment-control differences in all types of unearned income were small and insignificant. The gap in total income between the two groups continued to narrow to a statistically insignificant \$46 because control group members' incomes increased slightly faster than did those of treatment group members. The average monthly income of control group members increased from \$832 per month at 30 months after application to \$969 per month at 60 months after application (an increase of about 16 percent). The average monthly income of treatment group

members increased from \$885 at 30 months after application to \$1,015 at 60 months after application (a 15 percent increase).

Sixty months after application to CET, both groups reduced their dependence on public assistance still further: public assistance contributed 30 percent of control group income and 27 percent of treatment group income.

Although dependence on public assistance decreased and earned income increased between 12 months and 60 months after application for both groups, other sources of income, such as alimony and child support, continued to account for less than 10 percent of their income. Thus, treatment group members received about 8 percent of their total income from other income sources at 12 months after application and received almost 7 percent of their income from such sources at 60 months after application. Control group members received 7 percent from other sources at 12 months, and 9 percent from other sources at 60 months.

2. Sample Members' Income Relative to the Poverty Level

After five years, members of both the treatment and control groups had higher incomes than at the time of application to CET. One question of interest is the extent to which members of the groups remained economically disadvantaged. As a proxy measure, we compared the total income of the sample member (not counting the incomes of others in her household) with the poverty level appropriate to a family consisting of the sample member and her children. We used both baseline data from the time of application and data from the 60-month interview covering the fifth year after application to make this comparison (Table IV.2). Because other family members (and their incomes) are omitted from this calculation, it does not measure the percentage of sample members living in poverty; instead, it should be interpreted as an indicator of a sample member's ability to be self-sufficient should she be in the position of providing for her children on her own.³

³We asked about the incomes of other household members during the baseline interview, but the extent of missing data was so great that the questions were omitted from follow-up interviews.

TABLE IV.2
DISTRIBUTION OF SAMPLE MEMBERS' INCOME AS PERCENTAGE
OF THE POVERTY LEVEL
(Percent)

	Month Before Application		60th Month After Application	
	Control Group	Treatment Group	Control Group	Treatment Group
Percent of Poverty				
≤50 percent	24.2	24.4	4.9	9.5
51-75	28.2	23.4	22.0	15.2
76-100	32.9	33.5	24.3	21.7
101-125	7.0	9.6	9.7	10.3
126-150	3.0	3.8	9.7	9.5
151-175	2.0	1.5	10.1	7.6
176-200	0.7	1.8	6.3	8.9
>200	2.0	2.0	13.1	17.3
Cumulative Distribution				
<50	24.2	24.4	4.9	9.5 **
<75	52.3	47.9	26.9	24.7
<100	85.2	81.4	51.1	46.3
<125	92.3	90.9	60.8	56.6
<150	95.3	94.7	70.5	66.1
<175	97.3	96.2	80.6	73.7 **
<200	98.0	98.0	86.9	82.7
Sample Size	315	423	315	425

SOURCE: Data are from the baseline and 60-month follow-up interviews at CET, and the *Federal Register* (1984-1992).

NOTE: The sample is limited to clients completing a 60-month follow-up interview. We assume that the household (family) size is the same at baseline and at 60 months. The percent of poverty is calculated by dividing the respondent's income by the poverty level for a family consisting of the respondent and her children. Cash public assistance income is included in total income.

*/**/** Indicate that the impact estimate is statistically different from zero at the 90/95/99 percent confidence levels.

At the time of program application, almost all of the women in the sample had incomes below the poverty level; 81 percent of women in the treatment group and about 85 percent of those in the control group had incomes below the poverty level for themselves and for their children. Only 2 percent of the sample had incomes that equalled or exceeded 200 percent of poverty. The incomes relative to the poverty level of control group members and treatment group members were not significantly different.

Sixty months after application, although treatment group members were more likely to be able to provide an income above the poverty level for their families, roughly one-half of both groups had below-poverty-level incomes. At the end of the 60-month follow-up period, 46 percent of treatment group members and 51 percent of control group members had incomes below the federal poverty level for themselves and their children. About 17 percent of the treatment group was above 200 percent of poverty, as was 13 percent of the control group.

C. HEALTH INSURANCE COVERAGE

At 60 months after application, as at 30 months, the percentages of the treatment and control groups covered by Medicaid or by other health insurance were not significantly different (Table IV.3). At 30 months after application, 59 percent of the treatment group and 63 percent of the control group participated in Medicaid. At 60 months, the rate of participation had decreased to 42 percent and 46 percent, respectively. Concurrently, receipt of insurance from some other source increased from 38 percent to 44 percent for treatment group members, and from 33 percent to about 41 percent for control group members.

The change from Medicaid to other insurance coverage is broadly consistent with the increased percentage of treatment and control group members employed at 60 months after application and reporting receipt of health insurance from their employers. More treatment and control group members reported having non-Medicaid insurance coverage than reported having insurance coverage

TABLE IV.3

IMPACTS AT CET ON HEALTH INSURANCE COVERAGE AT THE TIME OF
THE 30-MONTH AND 60-MONTH INTERVIEWS

Income Source	30 Months After Application			60 Months After Application		
	Control Group	Treatment Group	Impact	Control Group	Treatment Group	Impact
Percent Covered by Medicaid	63.2	59.1	-4	46.2	42.3	-4
Percent Covered by Other Health Insurance ^a	32.5	38.2	5.7	41.3	43.5	2.2
Percent for Whom Other Health Insurance Covers:						
Hospital bills only	0.00	1.83	1.8	1.60	0.6	-1.0
Doctor only	0.95	0.61	-0.3	0.8	0.0	-0.8
Both	98.1	97.6	-0.5	96.0	98.9	2.9 *
Missing	0.95	0.00	-1.0	1.6	0.6	-1.0
Percent Who Pay Part of Premium for Health Insurance (Among Those with Private Health Insurance)	52.4	61.6	9.2 **	52.4	60.1	7.7
Percent with any Health Insurance	87.2	87.1	-0.1	84.1	82.5	-1.6
Sample Size	329	440	--	315	423	--

SOURCE: Thirty-month and 60-month follow-up interviews with MFSP program applicants at CET.

NOTE: These estimates are not regression adjusted.

^aMostly private health insurance, but also includes a small group covered by Medicare and health insurance for disabled veterans and military personnel.

*/**/** Indicate that the impact estimates are significantly different from zero at the 90/95/99 percent confidence levels.

through jobs, most likely because they were covered through policies held by spouses or other family members.

The percentage of treatment group and control group members with any health coverage was not significantly different--83 percent of the treatment group and 84 percent of the control group reported either private or public coverage. Of some concern is the finding that the proportion of sample members reporting health coverage decreased slightly since the 30-month interview (from approximately 87 percent). One possible explanation is that some sample members may have earned enough to lose their Medicaid eligibility, but did not receive insurance from an employer or from other sources.

V. PARTICIPATION IN EDUCATION AND JOB TRAINING AND EDUCATIONAL ATTAINMENT

The MFSP program at CET afforded treatment group members ready access to an integrated education/job training program and a rich mix of supplemental services. Members of the control group were free to participate in education and job training programs offered elsewhere, and some treatment group members also did so, as a substitute for or in addition to the program at CET. Thus, the demonstration becomes a comparison of the effects of MFSP services with the effects of some participation in other services, rather than a comparison of the effects of the MFSP services with no services at all. The demonstration also provides an opportunity to study the relative effects of the MFSP program and other programs on attaining training and a high school credential.

In the analysis of participation in education and job training programs, it is of interest to assess treatment-control differences in the proportion of sample members participating in such programs at any time during the 60-month follow-up period, as well as in the timing of participation. However, three types of data problems limit our ability to characterize participation over the entire period: (1) some of the data collected for the fifth year after application are incomplete; (2) data on education and job training were not collected for the 18-month period following the 30-month interview date as a result of concerns about the length of the recall period; and (3) some clients were interviewed for the 60-month follow-up, but not for the 30-month follow-up. The approach taken here is to present data on the proportion of the full sample (including those with missing data) who reported enrollment in education and/or job training programs as a *lower bound* on the proportion actually enrolled. In addition, data on the proportion of the sample with missing information are presented to allow the reader to assess the potential understatement in the estimates.

The first section of this chapter presents an analysis of participation in education and/or training programs during the fifth year after application. The second section describes participation in these

programs during the 60 months after application. The third section examines the impacts of the CET program on attainment of a high school credential during the 60 months after application.

A. PARTICIPATION IN EDUCATION AND/OR JOB TRAINING DURING THE FIFTH YEAR AFTER APPLICATION

During the fifth year after program application, members of the treatment and control groups continued to participate in education and/or job training programs (Table V.1). About 22 percent of the control group and about 19 percent of the treatment group reported participation in education or job training courses. One-half of the active control group members reported training, the other half reported participation in education programs. Almost three-fifths of the active treatment group members reported participation in training, and two-fifths reported participation in education programs.

The most popular choices among training programs are consistent with the types of employment reported most frequently. For example, 16 percent of the control group and 19 percent of the treatment group who were in education or training participated in secretarial/office skills training, which might include training in typing, bookkeeping, accounting, word processing, use of office machines, and general office skills (not shown in table). Ten percent of the control group and 8 percent of the treatment group participated in training for health service occupations. Job training reported in this category might include training as a health aide or attendant, dental or lab technician, or medical coder, or first aid and CPR training.

Sixty-seven percent of the control group and 57 percent of the treatment group who were in training reported participating in a government-sponsored training program (Table V.2). Some respondents specifically identified their training source as GAIN or the Job Training Partnership Act

TABLE V.1
PARTICIPATION IN EDUCATION AND/OR TRAINING DURING
THE FIFTH YEAR AFTER APPLICATION,
BY MFSP APPLICANTS AT CET

	Control Group	Treatment Group
Percent in Education and/or Training		
Participating	22.2	18.7
Not participating	57.8	52.7
Missing, incomplete data	20.0	28.6
Percent in Training ^a		
Participating	11.4	11.6
Not participating	66.7	58.9
Missing, incomplete data	21.9	29.6
Percent in Education		
Participating	11.4	7.8
Not participating	67.6	61.5
Missing, incomplete data	21.0	30.7
Sample Size	315	423

SOURCE: Sixty-month follow-up interviews with MFSP program applicants at CET.

NOTE: The estimates are not regression adjusted. The sample comprises the population that completed a 60-month interview. Information on missing and incomplete data is included because rates of missing data differ by treatment status. Data were collected for the year preceding the 60-month interview. Because of late interviews, data on part of the fifth year are missing for some sample members.

^aAbout 20 percent of those who reported participation in training programs reported participating in only ESL or basic education classes.

*/**/** Indicate that the treatment-control difference is significantly different from zero at the 90/95/99 percent confidence levels.

TABLE V.2
PARTICIPATION IN GOVERNMENT TRAINING,
BY MFSP APPLICANTS AT CET
(Percent of Respondents in Training)

	Control Group	Treatment Group
Percent in Government Training Program	66.7	57.1
Percent Reporting Training Was GAIN	25.0	18.4
Sample Size	36	49

SOURCE: Sixty-month follow-up interviews with MFSP program applicants at CET.

NOTE: The estimates are not regression adjusted. The sample comprises treatment and control group members reporting participation in education and/or training programs during the fifth year after application. Percent in government training and in GAIN is likely to be understated because many participants name the direct service provider.

*/**/** Indicate that the treatment-control difference is significantly different from zero at the 90/95/99 percent confidence levels.

program. Although an adult education center, vocational school, or community college provided many of the other job training programs, many were most likely funded through GAIN or JTPA.¹

Three-fourths of the participants in education and/or training programs did not report working toward a degree or certificate (Table V.3). Only 7 percent of control group members and 10 percent of treatment group members in education or training programs reported working toward a high school diploma or GED; 9 percent and 5 percent, respectively, were seeking an associate's or bachelor's degree. Many of the participants in these programs were focusing on improving their employment skills. Others were enrolled in basic education programs as a requirement for receipt of public welfare benefits, but lacked a specific degree goal.

B. PARTICIPATION IN EDUCATION AND/OR TRAINING DURING THE FIVE YEARS AFTER APPLICATION

During the first 30 months after application, the treatment group reported significantly higher levels of participation in education and training programs than did the control group. Almost 78 percent of the treatment group participated in training and/or education during the first 12 months after application, compared with only about 29 percent of the control group.² By 30 months after application, 83 percent of the treatment group and 51 percent of the control group had participated (Table V.4).

During the fifth year after application, sample members continued to participate in these programs. A significantly greater proportion of control group members (7 percent) than of treatment group members (slightly more than 1 percent) reported participating for the first time during the fifth year after application. The low percentage of treatment group members reporting participation on

¹Only one member of the control group and one member of the treatment group reported attending CET.

²Gordon and Burghardt (1990) assessed participation in education and/or training during the first 12 months, and Burghardt et al. (1992) assessed participation during the first 30 months. Because the data presented here are based on the sample that completed the 60-month interview, they do not precisely match the data in those reports.

TABLE V.3
EDUCATION OR TRAINING PROGRAM GOALS DURING
THE FIFTH YEAR AFTER APPLICATION,
BY MFSP APPLICANTS AT CET
(Percent of Respondents in Education or Training)

	Control Group	Treatment Group
High School Diploma	1.4	1.3
GED	5.7	8.9
Associate's Degree	7.1	2.5
Bachelor's Degree	1.4	2.5
Other	7.1	10.1
Not Working Toward Degree/Certificate	75.7	73.4
Missing Information	1.4	1.3
Sample Size	70	79

SOURCE: Sixty-month follow-up interviews with MFSP program applicants at CET.

NOTE: The estimates are not regression adjusted. The sample comprises control and treatment group members reporting participation in education and/or training programs during the fifth year after application.

*/**/** Indicate that the treatment-control difference is significantly different from zero at the 90/95/99 percent confidence levels.

TABLE V.4

PARTICIPATION IN EDUCATION AND/OR TRAINING DURING THE 60-MONTH
FOLLOW-UP PERIOD, BY MFSP APPLICANTS AT CET
(Percent)

	Control Group	Treatment Group
Participation During First 12 Months After Application		
Participating	28.9	77.5 ***
Not participating	67.0	17.5
Missing, incomplete data	4.1	5.0
Participation During First 30 Months After Application		
Participating	50.8	82.7 ***
Not participating	38.7	11.3
Missing, incomplete data	10.5	5.9
Participation During Fifth Year After Application but not During First 30 Months		
Participating	7.3	1.2 ***
Not participating	67.3	67.8
Missing, incomplete data	25.4	31.0
Participation During Fifth Year After Application and also During First 30 Months		
Participating	14.0	16.8
Not participating	60.6	52.2
Missing, incomplete data	25.4	31.0
Participation During the 60 Months After Application ^a		
Participating	59.0	84.6 ***
Not participating	23.8	5.9
Missing, incomplete data	17.1	9.5
Sample Size	315	423

SOURCE: Twelve-month, 30-month, and 60-month follow-up interviews with MFSP program applicants at CET.

NOTE: The estimates are not regression adjusted. The sample comprises the population that completed a 60-month interview. Information on missing and incomplete data is included because rates of missing data differ by treatment status. Data on participation in education and training were collected for the first 30 months after application and the fifth year after application; missing data for these periods are tabulated. Data were not collected for the intervening 18-month period.

^aThis measure reflects only the first 30 months and the fifth year and is likely to understate participation over 60 months.

*/**/** Indicate that the treatment-control difference in percent participating is significantly different from zero at the 90/95/99 percent confidence levels.

a first-time basis is not surprising, given that opportunities had been available to them at CET. Seventeen percent of the treatment group and 14 percent of the control group who reported participating during the fifth year after application had also reported participating during the first 30 months after application. These respondents may be continuing education or training begun earlier or may be participating in additional training, in order to upgrade their employment skills, to train for a different field, or to meet welfare program requirements. Overall, at least 85 percent of the treatment group and at least 59 percent of the control group participated in education or training during the 60 months after application.

C. ATTAINMENT OF A HIGH SCHOOL CREDENTIAL

At the time of application to the MFSP demonstration, 43 percent of the control group and 40 percent of the treatment group had attained a high school credential--either a high school diploma or GED. By the end of 60 months after application, an additional 12 percent of members of both the treatment and control groups reported attaining a high school credential (Table V.5).³ Among sample members who reported in the baseline interview that they lacked a high school credential, 21 percent of the treatment group and 22 percent of the control group had attained a high school credential by the time of the 60-month interview. Although the 30-month data indicated that participation in the CET program increased the short-term likelihood of attaining the credential (Burghardt et al. 1992), this effect disappeared with time.

Information on the educational attainment of CET clients presented here is based on comparison of the baseline and 60-month interview data. However, respondents did not consistently report GED attainment during all four interviews spanning the 60 months after application; some reported in early interviews, but not in later ones, that they had a GED. Possible explanations for these discrepancies are that language barriers might have made it somewhat difficult to determine the clients' level of

³Because the data presented here are based on the sample that completed the 60-month interview, they do not precisely match the data in previous reports.

TABLE V.5
EDUCATIONAL ATTAINMENT AT 60 MONTHS AFTER APPLICATION,
BY MFSP APPLICANTS AT CET

	Control Group	Treatment Group
Total Sample		
Percent Who Attained a High School Credential in First 60 Months After Application		
Attained	12.1	12.1
Did not attain ^a	87.6	87.2
Missing, incomplete data	0.3	0.7
Sample Size	315	423
Subsample Lacking High School Credential at Baseline		
Percent Who Attained a High School Credential in First 60 Months After Application		
Attained	21.7	20.7
Did not attain	77.7	78.0
Missing, incomplete data	0.6	1.2
Sample Size	175	246

SOURCE: Baseline, 30-month, and 60-month follow-up interviews with MFSP program applicants at CET.

NOTE: The estimates are not regression adjusted. The sample comprises the population that completed a 60-month interview. Data on participation in education were collected for the first 30 months after application and for the fifth year after application. Data were not collected for the intervening 18-month period.

^aAbout 40 percent of the treatment group and 43 percent of the control group had attained a high school diploma or GED before application to the MFSP project.

*/**/*** Indicate that the treatment-control difference is significantly different from zero at the 90/95/99 percent confidence levels.

education; and some respondents might have confused receipt of a GED with participation in courses leading to a GED.⁴

Data on educational attainment presented here are not strictly comparable to data from previous interviews, because the question on GED attainment was asked differently than in previous interviews. In all interviews, respondents were asked to report the highest degree or diploma that they had attained. The 60-month interview also added a follow-up question for those who reported having no degree, which asked specifically whether they had a GED. This follow-up question raised the estimate of the percentage of sample members who had attained the GED by about 4 percentage points (or one-third of the total); however, there was no treatment-control difference in these additional responses.

Because these problems with reporting attainment of a high school credential occur with similar frequency for the treatment and control groups, they are not likely to affect the conclusion that both groups had achieved similar levels of educational attainment by the 60-month follow-up.

⁴We have not attempted to sort out these inconsistencies here. During the analysis of 30-month data, measures of GED or high school attainment were constructed using data from the 12- and 30-month follow-up interviews in combination with data from the MFSP programs' management information systems and baseline interviews. The measures were not materially different from those based on baseline and 30-month interview data.

VI. BENEFIT-COST ANALYSIS

On the basis of the 60-month follow-up data, we estimate that, over a five-year period, the CET program generates net benefits to society that exceed the costs of the resources used to provide MFSP program services, and substantial net benefits to participants, but generates net costs from the perspective of the government budget. These estimates confirm the basic conclusions from the previous benefit-cost analysis (Gordon 1992), but replace extrapolations of results from the first 30 months with estimates based on the 60-month data.

The benefit-cost analysis provides a framework for comparing the various benefits and costs of the demonstration and for determining who receives the benefits and who bears the costs. We examine benefits and costs from three perspectives: (1) participants; (2) government; and (3) society as a whole. If the program is successful, *participants* would benefit from increased earnings. However, participants who become self-sufficient could incur such costs as a reduction in welfare benefits, an increase in taxes, and the child-care and transportation costs associated with working. The *government* would gain from a reduction in welfare benefits to participants and from the increase in their tax payments, but would bear the costs of administering the programs (net of any reduction in the use of alternative education and training programs by treatment group members).¹ *Society as a whole* would gain from an increase in production (gross earnings plus fringe benefits), but would bear the costs of supporting the programs and the work-related costs of participants, such as child-care and transportation costs. This social perspective tells us whether the program generated new output having a value exceeding the costs of the resources used to provide program services. Welfare

¹This analysis assumes that the government would fund an ongoing training program, although a nongovernmental entity--the Rockefeller Foundation--funded the MFSP demonstration. The government budget perspective actually comprises all persons who are not MFSP participants. Strictly speaking, the government budget perspective should include participants, because they pay taxes.

benefits are not considered in the social perspective because they are a transfer to participants from the rest of society.

Although the analysis attaches dollar values to the relevant benefits and costs, it is important to recognize that some components are measured imprecisely or rely on assumptions. Our "benchmark" (or best guess) estimates of benefits and costs rely on estimates of the impacts of the demonstration during months 1 through 30 and months 49 through 60 after application, estimates of the costs of the MFSP demonstration derived from the data maintained by CET, and other estimates (taxes, fringe benefits, and the costs of alternative programs) from the available literature.² However, it was necessary to make assumptions both to estimate program impacts for the periods for which data are not available and to estimate the costs of alternative programs. Our benchmark estimates are based on a five-year time horizon, on the assumption that impacts follow a linear trend during the period for which data are not available, and on mid-range estimates of the costs of alternative training programs.

A. BENEFIT ESTIMATES

The net change in the value of output (earnings plus fringe benefits) was estimated on the basis of real (inflation-adjusted) earnings impacts during the first 30 months and last 12 months of the follow-up period.³ Earnings impacts during the intervening 18 months were assumed to follow a linear trend.⁴

We estimated the net change in public assistance benefits on the basis of the estimated impacts on AFDC, other cash public assistance, and food stamp benefits, adjusted for inflation. Impact

²Gordon (1992) describes the methodology of the benefit-cost analysis in detail.

³All estimates are valued in 1986 dollars, because 1986 was the middle period of program enrollment and the period for which program costs were estimated.

⁴Interpolation was made on the basis of the average earnings impacts during the years on either side of the interpolated period, rather than during the quarter or month, in order to provide an estimate that is less sensitive to short-term fluctuations in impacts.

estimates were available for the first 12 months of the follow-up period and for month 30 and 60; linear interpolation was used to estimate net impacts during the intervening months. Our estimates of program impacts on public assistance benefits at both 30 and 60 months are not statistically significant and, therefore, should be interpreted with caution.

We derived the costs of alternative employment-training programs per month of service from published sources. Impacts on months of enrollment in alternative programs during the first 30 months were estimated with data from the follow-up interviews with treatment and control group members. During the first 30 months, control group members participated in non-MFSP programs more than did treatment group members. However, the 60-month data suggest that treatment-control differences in program participation had largely disappeared by the end of five years.⁵ Thus, we assume that the differences in program participation over the last 30 months of the 60-month follow-up period are only one-half of those observed during the year before the 30-month interview.

B. COST ESTIMATES

We obtained estimates of MFSP service costs per participant by multiplying an estimate of the cost per month of service by the average number of months that services were used.⁶ In 1986 dollars, CET program costs were roughly \$3,900 per participant. The costs at the other MFSP demonstration sites ranged from \$2,400 to nearly \$6,000 per participant. Relative to the other MFSP sites, the CET child care and support service costs were high, but the administrative, education, and training costs were low. We believe that economies of scale created by the integration of the MFSP project with the other ongoing CET training programs explain CET's relatively low administrative and training costs.

⁵As discussed in Chapter V, the 60-month data provide reliable information on program participation only for the last six months of the follow-up period.

⁶Handwerger and Thornton (1988) developed estimates of the cost per month of service of program administration, education and training, support services, and child care assistance from program records.

The impacts of the CET program on child care and transportation costs incurred by sample members while they worked were estimated on the basis of the estimated impacts on the number of months worked, multiplied by estimates of the monthly cost of child care and transportation. Estimates of the number of months worked for months 49 to 60 were based on the 60-month interviews; data for the preceding 18 months were interpolated, using the same methods as those used for the earnings impacts. We developed estimates of monthly child care and transportation costs from costs reported by sample members in the 30-month interview; these estimates were not updated.

C. THE NET BENEFITS OF THE MFSP PROJECT AT CET

Our best estimate is that the CET program would generate net benefits to society of \$975 per participant over five years (in 1986 dollars) (Table VI.1). (None of the other MFSP programs were estimated to provide social benefits exceeding the costs of offering the programs.) From the social perspective, the ratio of benefits to costs of the CET program is estimated to be 1.23.⁷ That is, the return on one dollar spent by society on the CET program is \$1.23.

The large, rapid, and sustained earnings impact is the factor contributing the most to the positive net social benefits of CET. However, the savings from a reduction in the use of alternative programs is also a major factor. That is, treatment group members (most of whom had received CET services) had lower participation rates in alternative education and training programs than did control group members. From the social perspective, the program would not break even over the five-year time horizon without these savings.

⁷The benefit-cost ratio should be used with caution, because it is sensitive to the precise definition of benefits and costs. The designation of certain program impacts as positive benefits (costs) or negative costs (benefits) is arbitrary. For example, the savings in the costs of alternative programs may plausibly be conceived of as a benefit or as a reduction in the "net" cost of a program. The latter choice would change the benefit-cost ratio substantially, although it would remain greater than 1 at CET and less than 1 at the other sites. Comparisons between the benefit-cost ratios reported here and the ratios for other programs are valid only if the same definitions of benefits and costs are used.

In contrast, the total net benefit figures are *not* sensitive to the categorization of program effects as benefits or costs.

TABLE VI.1
ESTIMATED NET BENEFITS OF THE MFSP
DEMONSTRATION PROGRAM AT CET
(Dollar Benchmark Estimates)

Benefits and Costs	Perspective		
	Participant	Government	Social
Benefits			
Increased Output (Earnings plus Fringe Benefits)	4,132	0	4,132
Reduced Dependence on Public Assistance (AFDC and Food Stamps)	-467	467	0
Increased Taxes	-786	786	0
Reduced Costs of Alternative Education and Training Programs	0	1,078	1,078
Costs			
MFSP Program Costs	0	-3,888	-3,888
Costs of Working (Child Care, Transportation)	-347	0	-347
Total Net Benefits	2,532	-1,557	975
Social Benefit-Cost Ratio^a	--	--	1.23

NOTE: Estimates are based on a five-year time horizon and a 5 percent discount rate. All estimates are valued in 1986 dollars. Impacts during the period from 30 to 48 months for which there is a gap in the data were assumed to follow a linear trend.

^aCalculating the benefit-cost ratio entailed adding up all figures listed under benefits from the social perspective, and then dividing by the sum of social costs. This ratio is very sensitive to the specific definitions of benefits and costs used and is not comparable to ratios calculated in studies that used other definitions or other perspectives.

From the government-budget perspective, the CET program does not generate benefits over five years to offset the costs of offering the program. Net costs to the government are estimated at nearly \$1,600 per participant. A major reason for the lack of net savings from the government perspective is that estimated reductions in public assistance benefits received by participants are small.

We estimate that the CET program provides more than \$2,500 in net benefits to participants, because the large earnings gains due to the program are only partly offset by decreased public assistance, increased taxes, and increased costs of working.

Our benchmark estimates suggest somewhat lower net social benefits (and higher net government costs) than do previous estimates, which were based on extrapolation of the 30-month results.⁸ Previous estimates assumed that impacts on earnings and participation in alternative programs in the year before the 30-month follow-up interview would persist for the next 30 months. However, the 60-month data indicate that earnings effects had decreased slightly. In addition, differences in participation in alternative education and training programs, which were substantial at 30 months, had disappeared by the end of 60 months. Thus, the 60-month follow-up data have enabled us to refine our estimates of benefits and costs, while confirming the basic conclusions of the earlier analysis.

D. SENSITIVITY OF THE RESULTS TO KEY ASSUMPTIONS

It is important to emphasize that the estimates presented here are especially sensitive to our assumptions about costs and participation rates for alternative education and training programs. We have detailed estimates of months of participation in various types of education and training programs only for the first 30 months of the follow-up period. If all differences in participation in education and training programs disappeared after 30 months, then the net social benefits of the CET program

⁸Gordon (1992) projected the net social benefits of the CET project at San Jose to be \$1,182 per participant over five years. However, this estimate reflected use of a higher-than-intended discount rate for the extrapolation period. When computed with a 5 percent discount rate, the estimate of the net social benefits of the CET program over five years--based on extrapolation of the 30-month results--would have been \$1,525 per participant. Net government costs would have been \$993 per participant.

would be slightly more than \$600 per participant (Table VI.2). If the differences persisted at the level observed for the period just before the 30-month interview (our previous benchmark assumption), then the net social benefits of the CET program would be roughly \$1,300 per participant. Our current benchmark assumption is halfway between these two extremes, based on evidence that differences in participation had disappeared by the time of the 60-month interview.

Changes in key assumptions about the unit costs of the CET program and alternative education and training programs can also affect the magnitude of the estimated net benefits. Table VI.2 presents additional sensitivity analyses of these assumptions. It shows the effects of using lower- and upper-bound estimates of the costs of alternative programs (from Gordon 1992). In addition, because MFSP program costs include some costs that would not be incurred in an ongoing program, such as the cost of recruiting the control group, the sensitivity of the results to a reduction in program costs of 20 percent is also shown. In summary, these tests indicate that the CET program would lead to net social benefits over five years even under the most pessimistic assumptions, but that the program would lead to net costs from the government perspective even under the most optimistic assumptions.

TABLE VI.2
SENSITIVITY OF BENEFIT-COST RESULTS
FOR THE CET PROGRAM TO KEY ASSUMPTIONS
(Dollars)

	Perspective		
	Participant	Government	Social
Benchmark	2,532	-1,557	975
Change Assumptions About Participation in Alternative Programs			
No difference in participation after 30 months	2,532	-1,897	635
Differences at 30 months persist ^a	2,532	-1,221	1,311
Vary the Cost of Alternative Programs			
Low-cost estimate	2,532	-1,873	659
High-cost estimate	2,532	-1,122	1,410
Assume that MFSP Program Costs Fall by 20 Percent	2,532	-780	1,752
Lower Bound ^b	2,532	-2,118	414
Upper Bound ^c	2,532	-344	2,188

NOTE: All estimates are based on a five-year time horizon and are valued in 1986 dollars. Benchmark assumptions include a 5 percent discount rate and middle-range estimates of the costs of alternative programs. Estimates of costs of alternative programs are from Gordon (1992).

^aAlthough this assumption is not consistent with the 60-month data, it was used in the 30-month analysis and is included here to illustrate the effects of the smaller estimated impacts on participation in alternative programs.

^bLower bound assumes a low-cost estimate for alternative program costs and that MFSP program participation impacts stop after 30 months.

^cUpper bound assumes a high-cost estimate for alternative programs and that MFSP program costs are 20 percent below the benchmark estimates.

VII. SUMMARY AND CONCLUSIONS

The MFSP program at CET led to large increases in the earnings of program participants during the first 30 months after application, whereas the other MFSP projects did not. These results suggest that the CET model of open-access employment training, with integration of basic skills remediation and job preparation, is a more promising approach for low-income single parents than are models emphasizing remedial education before job skill training. The results from the 60-month follow-up interview with MFSP program applicants at CET indicate that the earnings gains due to participation in training at CET continued five years after application to the program. The 60-month follow-up results also confirm the previous conclusion that the CET program generates benefits to society over a five-year period that outweigh program costs. The persistence of CET program impacts over five years is particularly remarkable, because alternative education and training programs became more available during the latter part of the follow-up period, and a large proportion of control group members participated in some other education or training program.

A. SUMMARY

This section summarizes findings on earnings impacts, on average and for subgroups defined by education level; impacts on welfare benefits and educational attainment; and benefit-cost results.

1. Persistence of Earnings Impacts

During the fifth year after program application, treatment group members at CET earned \$95 per month more than did control group members, or 17 percent of the control group mean, an impact that is statistically significant at the 90 percent level of confidence. As the earnings of both treatment group and control group members continued to increase, the earnings effect narrowed somewhat over time in percentage terms; however, the difference between the two groups remained substantial. Furthermore, decomposition of the fifth-year earnings difference indicates that the difference is

explained by both the greater work effort and higher hourly wages of treatment group members compared with those of control group members. (However, differences in employment rates, work hours, and hourly wages are not, in themselves, statistically significant.) The fact that the CET program appears to lead to increases in both wages and work effort distinguishes it from most of the state work-welfare initiatives, which led to increased earnings largely through increases in work effort (Gueron and Pauly 1991; Friedlander and Hamilton 1993).

The persistence of earnings impacts is especially noteworthy because of the growing availability of education and training funded through GAIN--California's work-welfare program--during the latter part of the follow-up period. At least three-fifths of control group members entered non-MFSP education or training programs during the five-year follow-up period--a level of participation comparable to that of treatment group members in many employment-training demonstration programs. Although government programs, such as GAIN or JTPA, are likely to have funded much of the education and training received by control group members, we cannot determine the source of funding for most training or education received from the interview data.

The magnitudes of employment and earnings impacts estimated from the 60-month follow-up data are similar to those observed for the year preceding the 30-month interview. However, the net impacts on earnings and its components (employment, hours, hourly wages) are less often statistically significant at 60 months than at 30 months in part because the MFSP demonstration sample was designed for only 30 months of follow-up. The passage of an additional 30 months makes it more difficult to locate sample members, thereby inevitably leading to additional sample attrition. Furthermore, as sample members' lives follow increasingly divergent paths over time, the variance in outcome measures increases, making the role of the CET program more difficult to measure. Nevertheless, the consistent pattern of CET program impacts on earnings and the components of earnings over time strongly suggest that the observed differences in average earnings and its components reflect the effects of the MFSP program at CET.

2. Differences in Earnings Effects by Education Level

Fifth-year earnings effects at CET are substantial for women with 12 or more years of education at application but are negligible for women with less than 12 years of schooling. Furthermore, the difference in impacts between the groups with more and with less education is statistically significant. In contrast, CET had a significant positive impact on the earnings of both groups in the year before the 30-month interview. This difference in effects on women who had and who had not completed high school at application is difficult to interpret. CET might have given the earnings of the women with less than 12 years of schooling a more temporary boost. On the other hand, alternative training and education programs might have served control group members who did not finish high school more effectively than high school graduates.¹

3. Impacts on Welfare Receipt and Educational Attainment

Both the 30-month and 60-month follow-up interviews indicated that the CET program did not significantly affect the receipt of welfare benefits or welfare income. Although the lack of impacts on welfare receipt initially seems inconsistent with the substantial earnings impacts of the CET program, the apparent inconsistency can be explained by the fact that most of the earnings gains accrued to treatment group members who would not have received welfare benefits during the fifth year after application even in the absence of the experimental intervention. Indeed, most control group members were not receiving AFDC by the time of the 60-month interview.

Although CET participation led to higher rates of GED attainment early in the follow-up period, the control group members' rates of GED attainment equalled those of treatment group members over time. By the time of the 60-month interview, about 20 percent of both treatment group and control group members without a high school credential at baseline reported having attained such a

¹We have not assessed how CET program costs or participation in alternative programs vary by education level. Thus, it is not possible to assess whether a benefit-cost analysis would produce a lower estimate of net benefits for the subgroup that had not finished high school.

credential. It is not surprising that control group members caught up in GED attainment, given that the GAIN program emphasizes improving academic skills.

4. Benefit-Cost Results

Updating the results of the benefit-cost analysis confirms the preliminary conclusion presented in Gordon (1992), that the CET program generates net social benefits over five years that exceed its costs. The benefit-cost update also confirms the finding that the CET program is costly from the perspective of the government budget, largely because it leads to only small reductions in public assistance income for participants. The benefit-cost results presented here are based on a five-year time horizon. We have no reason to believe that the significant earnings effects of the CET program disappear completely after five years; consequently, the results likely understate the long-term benefits of the program.

B. CONCLUSIONS

The findings from the 60-month follow-up interview with MFSP program applicants at CET show that the strong earnings impacts of the CET program persist over time. These findings, combined with the lack of earnings impacts at the three other MFSP sites, which followed different program models, also suggest that the strong impacts at CET result from the distinctive training approach adopted by that program. Key elements of the CET training approach include open access to job-specific skill training without academic prerequisites, integration of basic skills remediation with job skill training, training in occupations for which employers need workers, active assistance in finding jobs, and flexible and easily accessible child care assistance.

We must draw conclusions cautiously from the experiences of four programs in four different locations. Although the MFSP demonstration design supports rigorous conclusions about whether each MFSP project had an impact, and about the size of the impact, the analytical rigor from a randomized design does not extend to conclusions about why some projects have impacts and others

do not. Cross-site differences in the characteristics of the organizations involved and differences in the characteristics of the women who applied to the programs might also have influenced the observed outcomes. Nonetheless, the findings on the CET program suggest the usefulness of continued testing of the CET program model.

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APPENDIX A

SUPPLEMENTAL TABLES FOR CHAPTER II

TABLE A.1
SAMPLE SIZES AND INTERVIEW COMPLETION RATES FOR THE 12-MONTH,
30-MONTH, AND 60-MONTH INTERVIEWS AT CET

	Control Group	Treatment Group	Total
Total Sample ^a	413	549	962
Cases with a 12-Month Interview	345	467	812
Percent of sample	83.5	85.1	84.4
Cases with a 30-Month Interview	329	440	769
Percent of sample	79.7	80.2	79.9
Cases with a 60-Month Interview	315	423	738
Percent of sample	76.3	77.0	76.7

SOURCE: Baseline, 12-month, 30-month, and 60-month follow-up interviews with MFSP program applicants at CET.

^aIncludes all cases who completed a baseline interview. Sample members were assigned to the treatment or control group after completing the baseline interview. All minority single mothers who applied to the participating CBOs and who completed the baseline interview were subject to random assignment.

TABLE A.2
BASELINE CHARACTERISTICS OF TREATMENT AND
CONTROL GROUP MEMBERS AT CET

	Baseline		60-Month Sample	
	Control Group	Treatment Group	Control Group	Treatment Group
Demographic Characteristics				
Age at Baseline	28.4	29.1	28.1	29.3 *
Number of Other Adults in Household	0.7	0.8	0.7	0.8
Number of Own Children and Stepchildren	1.7	1.7	1.7	1.7
Age of Youngest Child ^a	5.1	5.1	5.1	5.2
Percent African American	15.0	12.8	16.8	12.5 *
Percent Hispanic	73.9	80.3 **	76.2	82.7 **
Percent Never Married	47.5	50.1	49.2	48.7
Percent Lived with Parents	21.6	22.2	23.5	23.2
Percent Lived with Other Adults	40.7	42.6	43.5	43.5
Percent Used Child Care in Past Year	42.9	43.9	43.8	45.9
Education and Training				
Highest Grade Completed	10.1	9.9	10.0	9.9
Percent with High School Diploma	31.7	31.5	32.2	33.6
Percent with GED	10.7	6.9 **	10.7	6.5 **
Percent with Previous Training	25.4	24.8	26.0	26.5
Work Experience				
Percent Ever Worked	83.3	85.3	83.5	86.3
Percent Worked in Year Prior to Baseline	44.8	46.3	47.3	50.8
Weeks Worked in Year Prior to Baseline	12.6	13.2	13.5	14.2
Income Sources				
Earnings in Year Prior to Baseline	\$1,575	\$1,923	\$2,642	\$2,865
Percent Received AFDC or Other Public Assistance in Year Prior to Baseline	70.5	66.5	71.1	66.7
Total Income of Respondent in Year Prior to Baseline ^b	\$6,393	\$6,500	\$6,475	\$6,524
Annual Income of Others in Household ^b	\$4,070	\$4,441	\$4,153	\$4,126
Annual Household Income	\$10,577	\$11,054	\$11,046	\$11,070
Percent of CET Sample from:				
San Jose	72.2	76.9	67.9	76.4
Salinas	8.2	6.7	9.8	7.3
Gilroy	2.9	3.6	3.2	3.6
Watsonville	9.0	7.3	10.8	7.6
Oakland	7.7	5.5	8.3	5.2
Number in Sample	413	549	315	423

SOURCE: Baseline interviews with MFSP program applicants at CET.

NOTE: This table compares data describing the full sample at baseline and the survey sample at the time of the 60-month interview.

^aA small proportion of the sample had no children living with them at baseline.

^bIncludes the face value of food stamps.

*/**/** Indicate that the treatment-control difference is significantly different from zero at the 90/95/99 percent confidence levels.

TABLE A.3
MARRIAGE AND CHILDREN BORN DURING
THE 60 MONTHS AFTER APPLICATION

	Control Group	Treatment Group
Percent Married at the 60-Month Interview	20.6	20.8
Percent with Child Born During First 30 Months After Baseline	18.1	20.6
Percent with Child Born During Second 30 Months After Baseline	33.0	32.4
Percent with at Least One Child Born During 60 Months After Baseline	41.3	38.8
Sample Size	315	423

SOURCE: Sixty-month follow-up interviews with MFSP program applicants at CET.

NOTE: Children are counted if living in the respondent's household at the time of the 60-month interview. None of the treatment-control differences is statistically significant.