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Employment and Training Programs

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8.1 Introduction

The passage of the Area Redevelopment Act in 1961 started a prolonged effort by U.S. policymakers to reshape and upgrade the skills and employment prospects of the nation's low-income and displaced workers through publicly subsidized job training programs. These programs began with the goal of providing vocational training to dislocated workers, but they soon shifted to cover persons in poverty, many of whom were receiving public aid and who were especially economically disadvantaged with poor employment histories.

During the 1960s the menu of services provided to these groups expanded, but since that time their variety and content has not changed very much. Nevertheless, the orientation and goals of U.S. training policy have shifted frequently. During the last forty years, policymakers have varied their emphasis on low-cost compared with high-cost services; the degree to which they serve the economically disadvantaged or the unemployed; the amount of emphasis on serving adults compared with youths, especially young high school dropouts; and the extent to which these programs encourage participants to acquire new skills or help them to quickly find regular jobs.

A closer look at these programs indicates that it is sometimes incorrect to characterize individuals' participation in them as training. Relatively few participants enroll in publicly subsidized vocational courses long

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enough to acquire some kind of credential. Participants who enroll in programs that place them in a subsidized job with a private employer often receive little or no training other than employment experience. Many participants receive services whose stated objective is simply to facilitate their search for a job. These features of government training programs underscore their dual purpose: skill development and job placement. Policymakers have designed programs that conform with the latter objective to make participants more productive job searchers and produce better "job matches," but they are not intended to raise vocational skills. For this reason it is more accurate to refer to the existing menu of services as employment and training programs.

Compared with other means-tested programs summarized in this volume, the United States spends relatively little on these programs each year. Expenditures amount to approximately 0.1 to 0.2 percent of gross domestic product (GDP), depending on which programs are counted. Further, these expenditures amount to approximately 3 to 6 percent of the annual cost of training by private employers. As a share of GDP nearly all other Organization for Economic Cooperation and Development (OECD) countries spend substantially more on such programs (Heckman, LaLonde, and Smith 1999). Given the size of this investment in these programs compared to the levels of poverty and the amount of wage inequality, it is not hard to understand why U.S. employment and training programs have not had a very large impact on output or the structure of wages.[1]

By design these programs should not dramatically affect the well-being of the average participant. The evaluation research makes clear that existing programs do not integrate their participants into the economic mainstream. When employment and training programs are effective they make economically disadvantaged persons less poor, but they do not substantially reduce poverty. This finding should not be surprising, because the vast majority of these services are provided at relatively low cost per participant, much less than the cost of a year of formal schooling. For example, during program year 1997, programs operated under the Job Training Partnership Act (JTPA) spent on average about $3,000 per participant.[2] To expect such programs to raise participants' subsequent productivity enough so that their annual earnings rise by, say, several thousand dollars would imply that these social investments have an extraordinary internal rate of return.

Although expenditures on these programs are relatively small, they have been as carefully evaluated as any social program in the United States (and probably the world for that matter). These studies have produced many im-

1. See Heckman, Roselius, and Smith (1994) for an instructive calculation of how large the public commitment to these programs would have to be to affect these outcomes.

2. Unless otherwise indicated, costs and expenditures figures presented in this chapter are expressed in 1999 dollars.

portant methodological advances for the field of program evaluation more generally. Further, there are few areas in the social sciences in which there exists such a large mix of both conventional nonexperimental evaluations and social experiments. Indeed, many of the methodological advances have occurred because of the opportunity to directly compare evaluations that use nonexperimental methods to those that rely on experimental methods.

Despite the relatively modest public expenditures on these programs, the evidence indicates that these services have consistently improved the employment prospects of economically disadvantaged adults. The findings for displaced workers are unclear. Under plausible assumptions about the welfare cost of taxation and the duration of these programs' impacts, the internal rates of return from these programs are quite large (Heckman, LaLonde, and Smith 1999). Indeed, a case can be made that time in these programs may be more efficient than time in formal school. The reason that their impacts on the economy and on the individuals themselves are small is that the investment is small (LaLonde 1995).

By contrast, among economically disadvantaged youths, these programs generally fail to produce any employment or earnings gains. As will be shown, this result has been confirmed in many nonexperimental evaluations and in several social experiments of alternative program models. The one exception to this finding is the Job Corps program. Some evaluations, including one experimental evaluation, report that these services modestly increase participants' employment rates and earnings. That this program works is instructive because, unlike most services received by government training participants, these services are comprehensive and expensive. At the same time it is important to acknowledge that some studies of this program and of services like it come to a different conclusion. Moreover, depending on how long the program's earnings impacts last, cost-benefit analyses suggest that the earnings impacts from Job Corps may not be sufficient to justify the program's high costs. Indeed, a case can be made that on the margin, society would have been better off if employment and training resources were shifted from Job Corps youths to adults.

The primary purpose of this chapter is to describe employment and training policy in the United States and to follow the key developments in this policy during the last forty years. It touches briefly on some of the methodological developments that the evaluations of these policies have produced. Finally, it surveys some of the principal empirical findings in the literature on the effectiveness of these programs. As this chapter is written, the nation is in the midst of a major overhaul and consolidation of its employment and training services; therefore we will not discuss proposed reforms, as has been done in other chapters in this volume. Instead, in the next section we describe these changes and what they imply about U.S. policy.

8.2 History of U.S. Employment and Training Policy

8.2.1 The Menu of Employment and Training Services

During the last four decades, federal policymakers have authorized an array of employment and training services targeted toward a variety of different groups in the population. These services have targeted mostly the economically disadvantaged, displaced workers, and the disabled, but some components have specifically targeted particular groups such as Native Americans, senior citizens, farmers, homemakers, and migrant workers. Although these programs have primarily served low-income persons, they have never been entitlements, nor has access to them always been means-tested. Policy has consistently required that program operators provide employment and training services only to eligible applicants who they believe would benefit from the program.

In the next subsection of this chapter, we examine in greater detail the changes in employment and training policy during the last forty years and how these changes have affected the eligibility for training programs. Although there have been several significant policy changes during this period, with one exception, the mix of government employment and training services has remained largely the same. Presently, there are likely to be three broad categories of services available to participants. During the 1970s this mix of services also included public service employment opportunities.

As shown by table 8.1, the first of these service categories features programs designed to increase participants' human capital or skills. Within this category policymakers have emphasized two approaches with varying intensity over the years. The first approach is to provide participants with vocational training in a classroom or institutional setting (known as classroom training, or CT). In addition to vocational training, participants in CT also may receive a range of remedial skills. These include courses that provide basic education, literacy training, preparation for the (GED), instruction in English for non-native speakers, and some school-to-work activities.

The second approach to skill development takes place outside the classroom in subsidized on-the-job training (OJT) positions. This program provides participants with a subsidized job in the private sector with the expectation that the private-sector employer will retain the worker after the training period ends. Employers receive a 50 percent wage subsidy for up to six months. The content of the training—indeed, the extent to which participants even receive any formal training—varies substantially among both participating employers and locales.

The second category of services is designed to introduce participants to the world of work and to provide them with an employment experience.

Table 8.1 A Classification of U.S. Government Employment and Training Programs

I. Skill Development
  A. Classroom Training (CT)
    1. Basic Education: Toward goal of attaining high school certification (e.g., a diploma or GED).
    2. Vocational Skills Training: General skills for specific occupation or industry. Duration usually less than twenty weeks.
  B. On-the-Job Training (OJT)
    Jobs in private sector. Subsidies paid to employer to hire targeted group. When subsidy ends after six months to one year, employer may retain trainee as a regular employee. Training content varies from little to some. Occasionally coordinated with off-the-job training.

II. Work Experience
  Similar to OJT, but provides temporary experience in a job in the public or nonprofit sector. Targeted to youth and economically disadvantaged with little past employment. Meant to introduce participant to the world of work and to provide very general work skills. Not designed to provide vocational skills.

III. Employability Development
  A. Job Search Assistance
    Provides job search training skills, counseling, workshops, job clubs, and resource centers. Career counseling and assessment includes testing to determine if individual is job-ready and to design appropriate job search strategies. Program staff may recommend training.
  B. The Public Labor Exchange
    Available to all persons, including the employed and individuals who are out of the labor force. Focus is on matching existing skills to attributes listed by employers. Participants receive job "referrals" that may lead to job placements.

IV. Job Development
  Public-Sector Employment: creates temporary public-sector jobs for the unemployed, especially the long-term unemployed, in areas with relatively high unemployment.

Source: Butler (1976).

Work experience programs (WE) create temporary jobs in public and nonprofit employment. The jobs are of limited duration and participants are expected to find regular jobs when they leave the program.

Although work experience potentially raises participants' human capital, program operators do not expect participating employers to provide any vocational skills. In practice, the distinction between WE and OJT may not be very great, except that in the latter case officials anticipate that the private employer will retain the trainee. By contrast, the purpose of WE is to ease participants' transition into the labor market. These programs usually are targeted toward economically disadvantaged youths and welfare recipients who have had little recent labor market experience.

Policymakers have designed a third category of services to enhance participants' job search and job matching skills (job search assistance, or JSA). Participants may receive career counseling, skill assessments, information

about the labor market, job referrals, and sometimes job placements. In addition, they may participate in classes that teach job search skills, including interviewing skills expected by employers. Under this category of services, participants also receive referrals to other supportive social services that provide subsidies for child care and transportation, or substance abuse counseling. The employment service (operated by the states under the Wagner-Peyser Act of 1933) provides many of the services in this category, but authorities also may subcontract for them from other sources.

This third category of employment services also highlights the dual goals of U.S. employment and training policy. Policymakers provide CT and OJT to help individuals develop new skills; these programs are like formal school. By contrast, they provide WE and especially JSA services to facilitate rapid placement into a regular job; the function of these services is like those provided by the employment service. In the first case models of human capital investment seem to motivate these programs' existence, whereas in the second case these programs seem to be motivated by models of job search. As we show below, over time policymakers have alternatively emphasized one goal over the other. But there also is reason to believe that in practice CT and especially OJT are to some extent facilitating job placement and are not simply designed to improve participants' vocational skills (Heckman, LaLonde, and Smith 1999).

The final category of employment and training services shown in table 8.1 is not a part of current U.S. policy. But during the 1970s a substantial portion of federal expenditures on these programs was on public-sector employment (PSE). These government-created jobs reflected a policy that emphasized job placement instead of skill development. Under this approach, the government was the employer of last resort. Participants in PSE jobs were either (a) the long-term unemployed or (b) more economically disadvantaged persons who could not find a job on their own or be placed in an OJT position.

8.2.2 History, Rules, and Shifting Goals

The Area Redevelopment Act

Active federal involvement in employment and training policy began with the passage of the Area Redevelopment Act (ARA) in 1961.[3] Con-

3. Much of current U.S. employment and training policy evolved during the 1960s. There are several sources that provide details of this history and of the subsequent changes in these policies since that time. Levitan and Mangum (1969) provide a detailed description of the programs that were created during the 1960s. Taggart (1981) does the same for training policy during the 1970s. The history of these programs during the 1980s and 1990s is covered in various reports of the National Commission for Employment Policy (see, e.g., National Commission for Employment Policy 1987, 1995). Another resource is various volumes of the Manpower Report of the President and the Employment and Training Report of the Secretary of Labor; see the references for examples.

gress enacted this legislation in response to the rise in unemployment that followed the start of the 1958 recession. They perceived that technological change had permanently dislocated workers and that its consequences were especially geographically concentrated. The primary purpose of this legislation was to bring "economic prosperity to depressed areas," designated as "redevelopment areas" because of their persistently high unemployment rates. It intended to stimulate economic growth by providing financial and technical assistance for business expansion in these areas.

Another component of ARA foreshadowed much larger future federal involvement in the development of the nation's human resources. The legislation provided for subsidized training to unemployed or underemployed persons in redevelopment areas. Local officials in state departments of employment security selected and referred eligible participants to training centers and other training providers. Participants received a training allowance or stipend for up to sixteen weeks while they were enrolled in occupational training. Because the funding and geographical coverage of the ARA's training component were limited, its overall impact was small. But the policy provided a model for subsequent training legislation.

Manpower Development and Training Act

In 1962, Congress expanded both the scope and quantity of training services when it enacted the Manpower Development and Training Act (MDTA). It also sought to provide these services in the context of broader human resource strategy for the country. The act required "the federal government to appraise the manpower requirements and resources of the nation, and to develop and apply information and methods needed to deal with the problems of unemployment resulting from automation and technological changes and other types of persistent unemployment" (Manpower 1964, 1). This objective of U.S. employment and training policy continues to the present and is at the heart of current policy under the Workforce Investment Act (WIA).

Like the ARA, this legislation targeted laid-off workers who could not "reasonably be expected to secure full-time employment without such training." In addition, the legislation also provided for training to "qualified persons for new and improved skills." This component of the legislation required the Department of Labor to monitor occupational trends and to estimate those occupations where it expected skill shortages to arise. Authorities were supposed to use these estimates to select the types of vocational training provided to participants. In addition, the act also instructed the Labor Department to use this more detailed labor market information to expand counseling and placement services for the unemployed in order to improve the job matching function of the employment service.

An important distinction between MDTA programs and those that came before or after them is that the government not only subsidized the

direct costs of training, but also provided participants with training allowances or stipends that lasted a relatively long time. Under the act, participants could receive a training stipend for up to fifty-two weeks paid by the Department of Labor through state departments of employment security. Believing that longer training was necessary, Congress amended the act and extended the stipends to seventy-two weeks. In 1965, Congress again extended the duration of these stipends to 104 weeks.

During its first four years, MDTA maintained the same objective as the ARA by serving unemployed workers who had been laid off because of technological change. More than one-third of the early cohorts of trainees had been unemployed for more than twenty-six weeks prior to enrolling in MDTA. The primary recipients of the program's training stipends were household heads who had worked for at least three years. Relatively few participants under MDTA were youths.

The MDTA provided two types of training that continue to be among the most important categories of services available today. First, the program subsidized vocational and technical training in private and public educational institutions, usually in classroom settings. Early cohorts of male participants were trained for blue-collar occupations such as semiskilled machine shop workers, skilled motor vehicle mechanics, or welding. Female participants received training for clerical occupations. The former Department of Health, Education, and Welfare programs administered these services. The second type of training, administered by the Department of Labor, provided OJT training, usually with a private employer. OJT participants were selected through the employment service. After training was complete, participants in both CT and OJT could receive counseling and job placement services.

During the 1960s the composition of MDTA training slots shifted from being primarily CT to being a mix of CT and OJT as policymakers grew concerned that CT training was not providing skills demanded by employers. During the first three years of the program, approximately 80 percent of participants were approved for CT. By 1968, nearly one-half of participants received OJT (Manpower 1969, 4). In addition, the fraction of participants who received a combination of CT and OJT rose to about 15 percent by 1967, with about one-third of all OJT participants receiving these "coupled" services. In most instances, recipients of these coupled services received basic education rather than vocational instruction.

The 1966 MDTA Amendments

Congress amended MDTA frequently, but the 1966 amendments constituted a substantial change in the program's policy objectives. Motivated partly by a strong economic expansion that had driven the unemployment rate below 4 percent, Congress decided to target the programs' services toward the economically disadvantaged and to "rectify skill shortages."

Table 8.2 **Characteristics of MDTZ Participants in Classroom Training and On-the-Job Training Programs (percentages for fiscal year 1966)**

	Classroom Training		On-the-Job Training	
Characteristics	Male	Female	Male	Female
Percent of total	57	43	77	23
Black	31	42	12	19
Age > 34	26	33	20	38
High school dropout	59	42	34	47
Some college	5	8	11	8
10+ years prior experience[a]	33	16	30	22
Unemployed > 26 weeks	23	43	13	42
Unemployment insurance claimant	19	8	9	4
Public assistance	9	16	1	2

Source: Manpower (1997, 278).

Notes: Among 87 percent of participants who were unemployed prior to MDTA, the percentage whose ongoing spell was at least twenty-six weeks long. Expenditures are in 1999 dollars. n.a. = not available.

[a]Persons with ten or more years of employment experience prior to MDTA.

Until this point, the program targeted what today we refer to as displaced workers. The act now required authorities to use 65 percent of its resources to train persons whose skills were such that they were "not ready for competitive employment" (Manpower 1969). Because these participants faced greater barriers to employment, program operators had to provide them with more services and longer training than had been the case for previous MDTA cohorts. This meant that the cost of enrolling these participants was higher than the cost of enrolling dislocated workers.

As a result of these policy changes, later MDTA cohorts consisted of a larger fraction of economically disadvantaged persons than did the early program cohorts. As shown by table 8.2, in 1966, more than one-half of the male CT participants and more than one-third of male OJT participants were high school dropouts. Relatively few participants were unemployment insurance claimants when they participated. The figures for women, shown in columns (2) and (4) of table 8.2 are similar. This shift in the composition of MDTA trainees is important to keep in mind when comparing evaluations of this program on successive cohorts (e.g., Ashenfelter 1978, 1979; Cooley, McGuire, and Prescott 1979; Kiefer 1978, 1979). Ashenfelter's study evaluated a more advantaged group than did the studies by Cooley, McGuire, and Prescott and by Kiefer.

As shown by table 8.3, during the mid-1960s, the cost of MTDA services averaged approximately $6,500 per participant. These costs included the direct cost of training, the training stipends, and the costs of transportation. Classroom training was approximately four times as expensive as the cost of OJT. During fiscal year (FY) 1967, CT cost per trainee averaged

Table 8.3 Participants and Costs of MDTA Training, 1963 to 1968

	Total Participants				
	In Thousands	% Classroom Training	% Classroom Training and On-the-Job Training	Expenditures ($ thousands)	Expenditures per Participant ($)
1963	59	96	0	290	4,900
1964	126	89	0	790	6,300
1965	231	72	8	1,500	6,500
1966	273	58	7	1,860	6,800
1967	298	48	15	1,490	5,000
1968	296	52	n.a.	1,590	5,400

Source: See table 8.2.
Notes: See table 8.2.

nearly $10,000.[4] This total was larger than per-pupil expenditures on a year of primary or secondary schooling.

Part of the reason for the difference between CT's and OJT's costs was that about one-half of CT's costs consisted of the training stipend (Levitan and Mangum 1969, 78). By contrast, during the early days of OJT, the program paid for materials but did not subsidize trainees' wages. The value of these CT training stipends averaged somewhat less than $3,500 per trainee. A formal cost-benefit analysis of training considers only the resources spent on training as a cost, whereas the stipend is a transfer from taxpayers to trainees. This amount of the stipend implies that during the mid-1960s the direct cost of CT averaged about $3,000 per participant. The total social cost of training includes this latter figure plus the trainees' opportunity costs of participating in training.

Historically, the cost of OJT services has been substantially lower than CT. This difference is not because trainees' wages were unsubsidized: In later years, the federal government paid such a subsidy. However, in a formal cost-benefit analysis, such a subsidy constitutes a transfer between taxpayers and employers. To be sure, the costs of OJT are understated somewhat because they do not include the formal and informal training costs incurred by employers when they employ MDTA participants. Such information is not available.

Other 1960s Employment and Training Programs

As discussed above, federal employment and training programs have been delivered through a complex array of programs administered in sev-

4. These training costs varied depending on the skills that were being provided. During fiscal year 1964, the direct costs of training nurse's aides, not including stipends, averaged $937, compared with the direct costs of training a licensed nurse, which averaged nearly $6,000.

eral different government agencies. A general pattern that has emerged is that the policymakers consolidate these programs and then, over time, add additional components and disperse control over them (e.g., Taggart 1981, 13–15). After a period has passed, they step in to consolidate the programs and the process begins again. This pattern emerged from the very beginning. Not long after creating MDTA, Congress not only repeatedly amended the original legislation—sometimes substantially changing its focus—but also created many entirely new and separate programs.

By the time Congress amended MDTA to shift the program's emphasis toward the economically disadvantaged, it had already created an array of educational and training services that targeted this group. Much of the emphasis of these other programs was to increase school completion rates and to ease the school-to-work transition of low-income youths. Under the Economic Opportunity Act (EOA) of 1964, Congress established several programs that have remained part of the nation's training strategy to the present day.

The Job Corps. The best known of the former EOA programs is Job Corps. This program provides a "structured residential environment for learning and development" for up to two years to low-income youths. It has three features that distinguish it from other employment and training services. First, the federal government continues to administer and operate the program. Funds for this $1.4 billion program are not distributed to the states or to the local Workforce Investment Boards. Instead, the Department of Labor directly hires subcontractors to operate approximately 120 training centers. During the 1960s, well-known firms such as General Electric and Westinghouse operated Job Corps centers.

A second distinctive feature of the Job Corps is its services. Participants receive a comprehensive set of counseling, education, training, work experience, health care, and job placement services. The assumption underlying Job Corps's design is that many youths from impoverished environments need many services to address a range of deficiencies but that these services can only be effective when participants are removed from their home environment. Their neighborhoods constitute a barrier to acquiring the educational, social, and vocational skills necessary to integrate these young people into the labor market. Accordingly, Job Corps centers usually are located outside participants' neighborhoods, sometimes in remote rural settings.

Finally, a third distinctive feature of Job Corps is its residential training centers. Participants usually live in dormitory settings and usually receive most of their education and vocational training on site. These services often are not integrated with the existing educational establishment.

The program has adopted several types of models for these centers. Among two early models was the Civilian Conservation centers, which

were loosely modeled on the Civilian Conservation Corps created during the Great Depression and were located in remote rural areas. These centers housed 100 to 250 persons. Unlike other Job Corps centers, these centers have been operated by the Departments of Agriculture and Interior.

The second model was misleadingly referred to as an "urban center." During the early years of the program, these centers often were located on federally owned, abandoned military installations near urban labor markets, although usually not in them. These centers were large, usually housing between 600 and 3,000 Corps members, and offered a much wider menu of vocational training options than would be offered in the Civilian Conservation centers. Indeed, participants in the urban centers have tended to be relatively more "job-ready" and able to benefit from vocational training than their counterparts assigned to the Civilian Conservation centers.

Because of the high costs of operating these two types of centers, Congress scaled back their number during the early 1970s and introduced two additional residential models. Residential Manpower Centers were located close to urban centers from which participants resided, and were close enough that it was practical to allow participants to go home on weekends. They included both resident and nonresident training participants. Further, when possible, these centers used existing vocational training institutions to provide training, rather than providing the training on site. These sites were approximately the same size as the Civilian Conservation centers. At the same time, a fourth residential model provided living and support services, but all education and training services were provided off site. These Residential Support Centers have tended to be small, housing approximately thirty persons.

Given that a criterion for being admitted to a residential Job Corps center is that applicants with children show that arrangements have been made for child care, it is not surprising that during the program's history approximately two-thirds of Job Corps participants have been males. Females have been disproportionately assigned to nonresidential centers. Overall, about 10 percent (and 1993 amendments to JTPA allowed up to 20 percent) of Job Corps participants have been assigned to these centers. These centers offer the same comprehensive set of services, except for the living quarters, and are located near participants' homes. Females with children are disproportionately assigned to them, because the residential centers do not accommodate children. In addition, twenty- to twenty-four-year-old Job Corps participants, especially those who are parents, are also more likely to be assigned to the nonresidential centers.

Because of the cost of the residential component of Job Corps (about 15 to 20 percent of program costs) and because this component has been assumed to be essential for the program to be effective, policymakers have been interested in assessing its value. During the late 1980s, the Depart-

ment of Labor financed a social experiment, known as the JOBSTART demonstration, based roughly on the nonresidential center model (Cave and Doolittle 1991). More recently, in another social experiment, the National Job Corps Study, researchers compared the effectiveness of Job Corps services for participants in residential and nonresidential settings (Schochet, Burghardt, and Glazerman 2000).

When it first began, Job Corps served fourteen- to twenty-one-year-old youths from economically disadvantaged families. During the 1980s the target group shifted to sixteen- to twenty-four-year-olds (U.S. Department of Labor 1988). In addition, administrators must select applicants who have the need, ability, and temperament to benefit from the education, training, and supportive services provided by the program. Participants must also be free from behavioral and medical problems and must have arranged for adequate child care when necessary. Since 1995, the program has had a zero-tolerance policy toward illegal substances. In practice, however, any youth who satisfied the age and income eligibility requirements for the program and who persisted in wanting to participate in Job Corps has been admitted into the program (Schochet, Burghardt, and Glazerman 2000).

Today the Job Corps enrolls approximately 70,000 youths and young adults annually. As shown by table 8.4, this figure is substantially larger than the number served during the 1970s, the program's first full decade, and is up somewhat from enrollments during the 1980s. As a consequence of the shifting demographics and increased real expenditures, there are more Job Corps slots per person in the sixteen- to twenty-four-year-old population than at any time in the program's history.

Table 8.4 **Job Corps Enrollments and Appropriations (selected years 1966–2000)**

Year	Enrollees	Enrollees per 16- to 24-year-Olds	Appropriations (nominal in $000s)	Appropriations (1999 in $000s)	Real Appropriations per Enrollee ($)
1966	18,146	0.63	310,000	1,606,000	88,504
1970	42,600	1.31	169,782	740,249	17,376
1975	45,800	1.25	210,499	665,176	14,523
1980	70,851	1.82	415,700	881,284	12,438
1985	63,020	1.72	617,000	962,520	15,273
1990	61,423	1.81	803,000	1,035,870	16,864
1995	68,540	1.83	1,089,000	1,197,900	17,478
1998	67,425	2.02	1,246,000	1,270,920	18,849
2000	70,400	2.04	1,358,000	1,325,408	18,826

Source: The 2000 enrollee figures are from the U.S. Department of Labor requested fiscal year 2000 appropriation.

Notes: Enrollees are for program years, not fiscal years. Enrollees per sixteen- to twenty-four-year-olds figures are multiplied by 1,000. Appropriations are for fiscal years.

As a result of its eligibility criteria, Job Corps has served youths who have had great difficulty finding steady employment, even in tight labor markets. During the 1960s about one-half of its entering participants read at the fifth-grade level or below; even during the 1980s about one-half of participants read only at the sixth-grade level or below (Levitan & Mangum 1969; U.S. Department of Labor 1988). Approximately 80 percent of participants do not have high school degrees, and about 60 percent are from families receiving public assistance. Younger Job Corps participants appear to be more economically disadvantaged; they are more likely to have been arrested and are more likely to be from single-parent homes.

Because Job Corps provides such a comprehensive array of services, it is an expensive program to operate. During FY 1967, a year of Job Corps cost nearly $40,000 per participant (Levitan and Mangum 1969). This high cost lead Congress, starting in 1968, to cut back on the number of centers, especially the more expensive Civilian Conservation centers, and on services. Accordingly, by FY 1971 public expenditures for a year of Job Corps had fallen to about $27,000 per participant year (O'Neill 1973). This figure was in line with the expenditures for a year of MDTA institutional (CT) training.

As shown by table 8.4, real expenditures per Job Corps enrollee have remained relatively high and have increased substantially since 1980. Part of the increase is due to longer stays in Job Corps. The average time spent in the program averages about eight months. This duration measure implies that Job Corps costs approximately $25,000 per participant year. These expenditures are more than double those for a year of formal schooling and substantially larger than those for other programs serving economically disadvantaged youths.

The foregoing cost figures overstate the social cost of Job Corps or the size of the skill investments made by policymakers. First, many of the program expenditures constitute transfers between taxpayers and Corps members. During much of its history, participants have received a modest living allowance, and even today they may receive performance bonuses and a "readjustment allowance" when they leave the program. In addition, Corps members receive in-kind transfers such as food, clothing, and medical care; even if they did not value these items as cash, they would likely have received these services through some other aid program had they not participated in Job Corps. Estimates that take these factors into account suggest that the social cost of a year of Job Corps is about three-fifths the total expenditures (O'Neill 1973). This estimate implies that the social cost of a year of Job Corps is approximately $16,000.

A second reason that program costs understate social costs is that, unlike CT program participants, Job Corp participants often produce output that is potentially socially valuable while they are in the program. Participants in the Civilian Conservation centers build or renovate facilities in national parks and on federal lands, and part of the training for participants

in urban centers is to renovate Job Corps facilities or provide unpaid work experience to nonprofit community organizations. In one evaluation of the program this output was valued at more than $2,000 per participant (Mallar et al. 1982).

Neighborhood Youth Corps/Summer Youth Program. Another enduring EOA program has been the Neighborhood Youth Corps (NYC). This program enrolled nearly 1.6 million youths from low-income families between 1964 and 1968. When Congress first created this program its two purposes were to provide fourteen- to twenty-one-year-old economically disadvantaged youths with incentives to stay in school, and to either encourage those who had dropped out of school to return or facilitate their transition into the labor force. Perhaps the best-known component of this program, which was later added after the original legislation passed, has provided eligible youths with full-time summer jobs. Because the vast majority of the program's participants do not have a high school degree, the program evolved to include a modest educational component designed to improve participants' basic educational skills.

Although this program was targeted to a population similar to that of Job Corps, it provided different and fewer services and was much less expensive to operate on a per-person basis. Program participants mostly received work experience positions, but some supportive social services have been available. Program operators design these services to help participants complete school or find a regular job. In-school participants received part-time jobs, while out-of-school participants received full-time positions. During the 1960s, these jobs paid approximately $6.50 per hour (in 1999 dollars).

Serving the out-of-school participants has been more expensive than serving the in-school and summer participants, who were either part-time or part-year workers. During the 1960s, the cost of a yearlong slot for an out-of-school youth was about $14,000 of which 70 percent of this amount was accounted for by participants' wages. The cost for the other program enrollees amounted to about $3,000 per participant (Levitan and Mangum 1969, 213). Most of these resources were spent on participants' wages in jobs that provided little or no vocational training. Therefore, this expenditure largely constituted a transfer between taxpayers and participants and not a social cost of the program.

At its peak during the late 1960s, this program served about 450,000 participants at a cost of approximately $1.8 billion (Levitan and Mangum 1969, 212). In subsequent years, policymakers consolidated the NYC program into MDTA's successors. Until recently, this program model accounted for a significant fraction of the total resources spent on employment and training policy. As shown by table 8.5, during the 1980s and 1990s total expenditures averaged nearly $1 billion annually, approximately the

Table 8.5 **Participants and Expenditures for the Summer Youth Program 1984–98 (under JTPA Title IIB)**

Year	Participants (000s)	Expenditures ($000,000s)	Outlay/Participant ($)
1984	672	942	1,400
1985	768	1,210	1,560
1986	785	1,134	1,440
1987	634	1,068	1,670
1988	723	1,004	1,380
1989	607	944	1,550
1990	585	902	1,520
1991	555	855	1,530
1992	782	1,176	1,460
1993	647	1,067	1,620
1994	574	953	1,640
1995	489	984	1,960
1996	521	1,122	2,153
1997	492	972	1,976
1998	495	829	1,675

Source: U.S. House of Representatives, Committee on Ways and Means (1996, 2000).

Notes: The Summer Youth Program ended with JTPA. Under WIA localities are to provide these services as part of their "Youth Activities." Starting in fiscal year 1996, states could apply some funds from the summer youth program to full-year youth programs under Title IIC of JTPA. Dollar figures are expressed in 1999 dollars.

same amount that has been spent on Job Corps. But the NYC/Summer Youth Programs serve somewhat more than 500,000 participants annually, far more than the number served by Job Corps. These figures imply an average expenditure of about $2,000 per participant. Under existing policy, this program has formally ended, although the statute requires local program operators to provide these services as part of their youth activities.

Despite the size of the investment and the policy's durability, the NYC and the summer youth program have received relatively little attention from program evaluators. One notable exception came with the passage of the Youth Employment and Demonstration Projects Act of 1978, when Congress authorized that this program model be formally evaluated. The resulting Youth Incentive Entitlement Pilot Project tested the effect of a guaranteed job on high school reenrollment, retention, and completion rates for 30,000 economically disadvantaged youths in select cities.

Work-Welfare Programs: WIN and JOBS.[5] Despite the sharp decline in unemployment rates during the long economic expansion of the 1960s, wel-

5. The JOBS program under the Family Support Act of 1988 is different from the Job Opportunities in the Business Sector program established by Congress in 1968. Policymakers created the earlier JOBS program to encourage private-sector employers to voluntarily provide more on-the-job training slots to economically disadvantaged persons.

fare case loads grew rapidly. Alarmed by this trend, Congress amended Title IV of the Social Security Act in 1967 to establish the Work Incentive Program (WIN; Manpower 1974). This program's goal was to reduce dependency on the welfare system by helping AFDC applicants and recipients find regular employment. (The chapter in this volume by Robert Moffitt provides a detailed description of the AFDC program.)

The WIN program followed two earlier programs that Congress created during the 1960s to require employable fathers to work rather than to receive public aid. In 1962 Congress amended the Social Security Act to allow those states with AFDC-UP programs to use their (50 percent) share of federal funds to create jobs and require employable fathers to "work off" their public assistance. These Community Work and Training Programs were essentially work experience programs with no training component. The number of hours that participants were required to work was equal to their aid divided by the prevailing wage. Two years later, Congress expanded the coverage of this model when it created the Work Experience and Training Program as part of the EOA. This program provided states with 100 percent federal funding to establish WE and training slots not only for fathers on AFDC-UP, but for poor fathers and single persons not eligible for such aid. This program also covered women, but the Johnson Administration discouraged states from providing WE to single women with children (Levitan and Mangum 1969).

With WIN the federal government began a prolonged thirty-year shift in policy toward the idea that even poor single women with children should work. WIN participants received a variety of usually low-cost employment and training and supportive social services (U.S. Department of Labor 1974; Butler 1976). During the program's first few years welfare recipients' participation was voluntary. The WIN program simply made these resources available as an incentive for aid recipients to seek economic independence on their own.

Starting with the Talmadge amendments in 1971, WIN participation became mandatory for "employable" AFDC recipients. These persons consisted of aid recipients whose children were six years of age or older, excluding persons who were disabled or ill or those who were already working more than thirty hours per week. "WIN II" required eligible AFDC recipients to register with the employment service. At this point registrants were to be apprised as to whether they would benefit from WIN services. Those found likely to benefit were placed in a WIN funded program.

Once AFDC participants were placed in WIN, program operators' goal was to place the participant into a regular job as quickly as possible. To achieve this objective WIN first provided participants with job search assistance and then with training or supportive social services such as child care or counseling if they were needed. The program also provided participants with supportive services during their first ninety days on the job.

The WIN program's emphasis on job placement instead of human capital development marked another programmatic change that resulted from the Talmadge amendments. In the last year of WIN, as originally authorized under the 1967 legislation, more than 20 percent of participants received skill training. During the first year of WIN II, this percentage fell below 10 percent (Manpower 1974, chart 19). Offsetting this change was an expansion of subsidized OJT positions and public service employment (PSE). The program subsidized these jobs for six months. To accommodate participants who could not be placed in an OJT position, WIN also established a limited number of PSE positions. These fully subsidized jobs usually lasted for one year, with the intention that the public-sector employer would then pay the participants' wages when the subsidy ended.[6]

This legislation also marked the start of a thirty-year change in policy toward impoverished children. Prior to WIN, policymakers intended that poor single mothers would receive aid under the assumption that they would remain at home and care for their children (see Moffitt, chap. 5 in this volume). But with the enactment of WIN II, policy clearly shifted and was based on a new assumption that employable aid recipients with school-age children should work. In principle, parents who refused an appropriate WIN placement, whether into a regular or subsidized job, could be refused welfare.

In practice, WIN II never evolved into a "Workfare" program, because of inadequate funding. First, there was never funding to ensure a slot for each WIN participant, and in addition there were not enough resources to ensure, as the legislation required, that "adequate child care be available" for WIN placements (Levitan and Mangum 1969). Appropriations were sufficient to provide job search assistance and training to less than 10 percent of potentially eligible participants (Manpower 1969). As the population eligible for the program grew throughout the 1970s, funding did not increase substantially, and as a result most eligible AFDC recipients were not assigned WIN slots. As shown by table 8.6, in 1969 about 100,000 persons received WIN employment and training services. This total amounted to approximately one-eighth of the total population of WIN participants.

Although most WIN participants received little from the program, during the 1970s a substantial minority did receive substantial amounts of training. Approximately one-half of these received CT, about one-quarter received OJT, and about one-tenth received PSE. Note that the budgetary

6. To foster the placement of WIN participants in private-sector jobs, Congress also instituted a tax credit that amounted to 20 percent of the first year's wages as long as the WIN recipient was retained for two years. Another example of this shift in policy is seen in the 1967 legislation, when Congress recognized that existing AFDC rules created strong disincentives for work. To address this problem they allowed AFDC recipients to keep the first $30 in earnings per month (or about $150 in 1999 dollars) before additional earnings caused their monthly benefits to drop.

Table 8.6 WIN and JOBS Participation and Expenditures, Selected Years

	Expenditures[a] ($000,000s)	Participants Receiving Services
Work Experience and Training		
1965	590	51
1966	580	58
1967	500	67
WIN		
1969	540	100
1973	1,100	354
1975	833	n.a.
1977	673	n.a.
1980	790	277[b]
1981	700	276[b]
JOBS		
1993	1,000	545
1996	1,500	665

Sources: Levitan and Mangum (1969, 258–59); Manpower (1969, 9); Manpower (1974, 131); Butler (1976); NCEP (1995, xvi); Congressional Research Service (1999); U.S. Department of Labor (1982, 43).

Note: n.a. indicates not available. Dollar figures are expressed in 1999 dollars.

[a]Some figures include both employment and training expenditures and expenditures on supportive social services.

[b]In 1980, 778,000 AFDC recipients received appraisal interviews; in 1981 the figure was 808,000.

cost of providing PSE to 9,100 WIN participants in 1975 was more than $28,000 per person. The cost of OJT was more than $11,000. These "investments" are far more than what is currently spent on adult employment and training activities. At the same time, these cost figures underscore the substantial costs associated with a mandatory workfare program that guarantees a slot for all employable recipients on public aid.

During the late 1970s the coverage of the WIN program increased, but the cost of the services provided declined. In fiscal year 1981 the percentage of AFDC recipients that received training or subsidized employment rose to more than one-third. Significantly, about two-thirds of this group also received job search assistance, and many received nothing more than this service. As a result, the cost of WIN services per participant fell sharply from its levels in the mid-1970s as the program shifted to serving a larger population with low-cost employment services. (In addition, 317,000 persons received various forms of counseling and another 166,000 persons received subsidized child care.)

After 1981, Congress expanded state welfare agencies' authority over WIN and allowed many states to experiment with the program by adding a short-term work experience component to WIN. Significantly, states now could use their AFDC funds to create temporary work experience posi-

tions in the public or nonprivate sector (Community Work Experience) or to fund jobs in the nonprofit sector (Work Supplementation Program). In these work experience positions states set the maximum number of required work hours in public and nonprofit organizations to be equal to participants' annual AFDC benefits divided by the minimum wage. For the first time authorities could require AFDC participants to work in return for their welfare benefits. In addition, this legislation also expanded the work requirement for aid recipients by requiring parents with children between the ages of three and five to participate in WIN when child care was available (U.S. Department of Labor 1982; Gueron 1986).

One result of these legislative changes was that policymakers in several states agreed to randomly assign WIN participants into scarce work experience slots. This practice led to a proliferation of social experiments whose results were influential in the debate surrounding the Family Support Act of 1988 and to some extent the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996 (see Moffitt, chap. 5 in this volume).

As part of the Family Support Act of 1988, Congress repealed WIN and replaced it with a more comprehensive program entitled the Job Opportunities and Basic Skills Program (JOBS). This program combined the elements of WIN with those of the work-welfare initiatives of the 1980s and added an education and training component. The legislation also expanded the population required to participate in the program to include (a) cash recipients between sixteen and fifty-nine with children over three (or over one at the discretion of the state); (b) teen parents over sixteen with a child of any age; and (c) nonparents in families receiving cash assistance who were not in school.

During its history JOBS operated as a federal-state-local partnership. At the federal level, the Department of Health and Human Services administered the program. States had considerable flexibility to design their own JOBS programs but were limited by some federally imposed constraints. The legislation required that each JOBS program include an assessment and develop a customized employment plan for each participant. It also stipulated that each program make available a wide array of employment and training services, and guarantee child care when needed.

At the local level, JOBS was administered jointly with MDTA's successor JTPA. In practice JOBS funds could be spent on JTPA participants and JTPA participants could be supported by JOBS funds.[7] Neither program was required to keep track of the services provided by other programs. By the mid-1990s, JOBS and JTPA together were the largest programs that provided employment and training services to the economically disadvantaged (National Commission for Employment Policy 1995).

7. Title V of JTPA explicitly provides for closer coordination between JTPA and WIN and, later, JOBS than was the case under CETA and prior programs.

The federal government never fully funded JOBS. Instead, it capped its commitment to match state resources.[8] Nonetheless, during the mid-1990s, federal and state expenditures on the program exceeded $1 billion, with the federal government covering about 60 percent of the total. To get states to provide JOBS's services to long-term AFDC recipients and other recipients with "barriers to employment," the federal government reduced its "match" if states failed to meet predetermined participation rates and to spend a certain percentage of their resources on particular groups. Several states operated JOBS demonstrations testing various program components using an experimental design. Also starting in the mid-1980s, there were several social experiments that tested the effectiveness of JOBS-like services.

The workfare component of WIN and its successor, JOBS, is an important feature of these programs that should be kept in mind when comparing the effectiveness of these services to other employment and training programs. This workfare component implies that evaluations of its impacts on earnings and welfare dependence assess these services in an environment in which participants were compelled to participate. An implication of the joint operation of JOBS and JTPA for program evaluation is that after 1988 some JTPA participants have been required to participate in the program as a result of having to participate in JOBS. By contrast, evaluations of most other employment and training programs occur in a context in which participation is voluntary. All other things being equal, we expect that the returns from a program that mandates participation would be less than for a program in which individuals participate voluntarily.

Public-Sector Employment. Through the 1960s, U.S. employment and training programs targeted the disadvantaged and structurally unemployed. In 1971 the scope of these programs increased. In response to the recession of that year, Congress passed the Emergency Employment Act. This act set up the first countercyclical employment program since the New Deal. The legislation provided for funds to go to local governments in order to create jobs for unemployed workers. Although the legislation singled out workers living below the poverty level, younger and older workers, women, and Vietnam veterans, the participants in these programs typically were more skilled than were participants in MDTA.

In the mid-1970s, additional legislation expanded the size of these countercyclical employment programs. The program's funding came to depend on locales' unemployment rates; during the 1975 recession more than 300,000 persons worked in public employment jobs. Despite a stronger economy, by 1979 this total had grown to 790,000 at a cost of about $8 bil-

8. But under Title IVA of the Social Security Act, the Family Support Act provided for an unlimited commitment to match state expenditures for child care for its JOBS participants.

lion. After reaching this peak, these programs and the nation's experiment with PSE abruptly ended with the JTPA in 1982.

The objective of this PSE program was different from the PSE services funded under WIN. In the case of WIN-PSE, policymakers intended that the government be the employer of last resort for persons whose skills made it unlikely that they would find regular jobs in any economic environment. By contrast, policymakers intended that PSE created by the Emergency Employment Act address the problem of cyclical unemployment. PSE slots expanded during the 1974–75 recession. As a result, participants in these programs were more job-ready and employable than WIN-PSE participants or other employment and training participants. During the mid-1970s, Congress recognized this dual purpose of PSE and incorporated this concept into MDTA's successor, the Comprehensive Employment and Training Act (Taggart 1981).

Comprehensive Employment and Training Act of 1973

During the 1970s, Congress embarked on an ambitious effort to consolidate the wide array of employment and training services that had emerged during the 1970s and to decentralize their operations. The Comprehensive Employment and Training Act (CETA) replaced MDTA and consolidated most of the existing 1960s programs under one statute. The CT and OJT programs under MDTA were authorized under Titles IIB and IIC of the act; work experience slots under Title IID; Job Corps under Title IV; and the NYC summer youth employment program under Title IV.

More importantly, CETA brought the concept of "revenue sharing" to national employment and training policy. It authorized the federal government to provide block grants to states so that they could customize and administer their own programs. The rationale underlying these changes was (and this continues to be current policy) that local officials knew better their own labor market and could customize a more effective array of services for participants.

This trend toward a greater local role in determining how federal employment and training dollars are spent has continued. However, the federal government retains substantial control over how these block grants are spent (Taggart 1981). Various formulas have constrained locales by dictating how funds could be allocated among different demographic groups and for different program categories. CETA required locales to submit plans each fiscal year to the Department of Labor for approval of their program activities. The federal government also retained direct control over several important elements of the program, such as Job Corps. In addition, an array of nationally run programs was gradually added to the program including those for older workers, Native Americans, ex-offenders, and youths.

Although CETA began a movement toward greater local control over

employment and training policy, it did not create any additional programs or tools for carrying out these policies. What distinguishes the CETA era from those that came both before and after is that (a) policymakers spent substantially more on employment and training services for low-income persons and the unemployed, and (b) a relatively large fraction of program expenditures were on WE and PSE programs.

At its peak during the Carter administration, CETA expenditures on all program components amounted to nearly $25 billion. Even excluding the costly PSE program, real expenditures on CETA programs were approximately 50 percent greater than those for similar MDTA and EOA programs during the late 1960s, and nearly double the real expenditures during the early 1990s on similar services under JTPA. Despite the trend toward higher training expenditures shown in table 8.7, under CETA outlays per trainee were lower than they were under MDTA. This change reflects a policy shift toward making smaller public investments in a larger number of low-income persons. This decline occurred as program operators emphasized services of shorter duration and placed greater emphasis on programs that provided job search assistance, job placement, and job creation. These services sought to place participants in jobs quickly rather than to increase their vocational skills.

Job Training Partnership Act of 1982

In 1982, Congress reduced the size and narrowed the focus of U.S. employment and training programs. Interestingly, job creation programs, which had been scaled back as the national unemployment rate rose during the early 1980s, were eliminated under JTPA during the height of the 1982–83 recession. Besides eliminating PSE programs, the JTPA refocused the nation's employment and training effort on hard-to-employ, economically disadvantaged persons. As with CETA, the basic menu of services remained the same. But as time passed, amendments to the act led operators to spend a larger share of resources providing training opportunities, especially CT, and less resources on employment-related services, as was the case under CETA.

An important difference between JTPA and its predecessors involved the manner in which training services were delivered and administered. The legislation continued the principle embodied in CETA that local officials were in a better position to administer and determine the type of training to be provided to participants. To implement this goal the legislation required that each of approximately 600 training jurisdictions—known as service delivery areas (SDAs)—establish a private industry council (PIC) consisting of representatives from local businesses, labor organizations, and political and community officials. The intent behind having business representation on these councils was to address policymakers' long-standing concern that government training programs were not providing skills that employers wanted.

Table 8.7 CETA and JTPA Participation and Expenditures, Select Years

Participants	Total (000s)	% Classroom Training	% On-the-Job Training	Expenditures (in $000,000s)	Expenditures per Participant ($)
		A. CETA Title II B, C: CT and OJT Activities Only[a]			
1975	364	80	20	1,200	3,300
1976	663	78	22	2,270	3,400
1977	707	76	24	2,604	3,700
1978	774	75	25	2,900	3,700
1979	726	78	22	2,670	3,700
1980	626	79	21	2,913	4,600
		B. Total Participants and Expenditures Under CETA Title IIB, C and JTPA-Title IIA, C			
1975	1,122	26	7	3,998	3,563
1976	1,731		9	4,870	2,813
1977	1,416	30	12	4,690	3,312
1978	1,332	38	15	5,969	4,481
1979	1,194	44	13	5,870	4,916
1980	1,114	48	12	6,712	6,025
1981	1,011	44	n.a.	6,396	6,326
1982	n.a.	n.a.	n.a.	4,008	n.a.
1983	n.a.	n.a.	n.a.	3,857	n.a.
1984	935	n.a.	n.a.	2,153	2,303
1985	1,077	n.a.	n.a.	2,665	2,474
1986	1,100	n.a.	n.a.	2,905	2,640
1987	1,336	n.a.	n.a.	2,779	2,080
1988	1,246	n.a.	n.a.	2,699	2,142
1989	1,187	n.a.	n.a.	2,530	2,131
1990	1,096	n.a.	n.a.	2,326	2,122
1991	1,022	n.a.	n.a.	2,162	2,115
1992	955	n.a.	n.a.	2,105	2,204
1993	636	n.a.	n.a.	2,038	3,450
1994	635	n.a.	n.a.	1,935	3,047
1995	536	n.a.	n.a.	1,709	3,188
1996	480	n.a.	n.a.	1,116	2,325
1997	483	n.a.	n.a.	1,011	2,093
1998	452	n.a.	n.a.	1,110	2,456

Sources: Taggart (1981, pp. 25, 46); NCEP (1995, appendix pp. 1–8); U.S. House of Representatives, Committee on Ways and Means (1996, 2000).

Notes: n.a. indicates not available. Participation figures prior to 1995 are the number of enrollees. Expenditures and dollar figures are in 1999 dollars.

[a]CETA Title IIB, C provides full range of activities to the economically disadvantaged and to the unemployed. JTPA Title A, C provide services to the economically disadvantaged.

The amount of money that states and PICs could spend depended on a statutory formula that gave one-third weight to the number of economically disadvantaged persons in the state; one-third weight to the difference between the number of unemployed persons in the state and the number of unemployed persons when the state unemployment rate is 4.5 percent; and one-third weight to the relative number of unemployed persons in areas de-

termined to have substantial unemployment (National Commission for Employment Policy [NCEP] 1987).

As shown by table 8.8, like CETA, the act also imposed constraints on who among the low-income population could receive JTPA services. The legislation required that 90 percent of participants in the CT and OJT programs under Title IIA (and later Title IIC for youths) be economically disadvantaged. Locales could reserve 10 percent of their training slots for persons who were not economically disadvantaged, but who had poor English skills, were high school dropouts, were teenage parents, or were determined by local officials to be likely to benefit from the program. The statute required that 40 percent of program funds be spent on training economically disadvantaged youths; it also required that AFDC recipients and high school dropouts be served equally depending on their proportions in the local population.

The JTPA also formalized a system of performance management that had evolved under CETA (Taggart 1981). Under this system, PICs, local training providers, and the U.S. Department of Labor (DOL) were to use a set of outcome-based performance standards to monitor the effectiveness of SDAs and their training services. As shown by table 8.9, these standards included JTPA trainees' "entered employment rate" or the percentage of trainees who were employed when officials terminated them from the program, and their hourly wage rate in that first job. Later, a thirteen-week follow-up employment rate was added as a new standard. The DOL adjusted these standards for each locale in order to account for differences in demographics and economic conditions.[9]

Policymakers anticipated that this system of performance management would improve net impact measures for these programs. The legislation sets aside some funds to reward sites that exceeded these standards or to provide "technical assistance" to those that fell short. In principle, poorly performing sites could be sanctioned.

Although policymakers designed JTPA performance standards to improve their programs, they also created incentives that potentially undermined their intent to concentrate resources on the hard-to-employ. Under JTPA, as with its predecessors, employment and training services have never been an entitlement for the economically disadvantaged or the unemployed. Program operators have considerable discretion over who they admit into their programs: They are only required to provide these services to persons who they believe will benefit from them. JTPA performance management gave operators incentives to "cream-skim" the most job-

9. See Barnow (1992, 2000) and Heckman, Smith, and Taber (1996) for more detailed descriptions of the JTPA performance standards system. Similar outcome-based performance measures are now a part of other U.S. training programs and are accepted among education policymakers. Also see these papers and Gay and Borus (1980) for evidence that such performance measures are not highly correlated with program impacts.

Table 8.8 **Comparison of Eligibility Requirements for Major Categories of Program Services under CETA, JTPA and the Workforce Investment Act (WIA)**

	Adults	Youths (1)	Youths (2)	Youths (3)	Displaced Worker
			CETA, 1973–82		
Programs	CETA Title IIBC	CETA Title IV (YETP)	CETA Title IV (Summer Jobs)	CETA Title IV (Job Corps)	Covered under CETA Title BC or CETA Title D, if economically dis advantaged
Eligibility	22 years and older Economically disadvantaged or unemployed; 6.5% funds for underemployed	14 to 21 years old Economically disadvantaged, but eligible if family income is < 85% of BLS (LLS)	Same as YETP	Same as under Economic Opportunity Act	Eligible for Title VI, Public Service Emp., if unemployed 10 of 12 weeks and income < 100 BLS LLS for 3 months
			JTPA, 1982–2000		
Programs	JTPA Title II-a	JTPA Title II-C (Year Round)	JTPA Title II-B (Summer Youth)	JTPA Title IV (Job Corps)	JTPA Title II[d]
Eligibility	22 years and older Economically disadvantaged;[a] 10% need not be economically disadvantaged	14- to 21-year-olds Economically disadvantaged, or eligible for free school meals, or Chapter 1 participant;[b] 10% need not be economically disadvantaged	14- to 21-year-olds Economically disadvantaged or eligible for free school meals[c]	16- to 24-year-olds Economically disadvantaged and residing in a "disorienting environment"; 80% are < 21 years	Laid off and either exhausted or ineligible for UI benefits; laid off b/c of mass layoff or plant closing; or long-term unemployed; or displaced farmer or homemaker
Appropriations FY 1998	$955 million	$130 million	$871 million	$1.2 billion	$1.0 billion

			WIA 2000–present		
Program	WIA Title I.B.5 (Adult Activities)	WIA Title I.B.4 (Youth Activities)	Repealed, but states must provide summer youth services under WIA Title I.B.4	WIA Title I.C (Job Corps)	Covered under WIA Title B
Eligibility	18 years and older; no income test; priority given to cash benefit recipients	Low income,[e] but not free lunch participants		16–24 years old; low income; and low literacy, homeless, dropout, foster child, parent, or requiring additional assistance to complete school	
Appropriations FY 2001 (2001$)	$950 million	$1.4 billion		$1.4 billion	$1.4 billion

Sources: Taggart (1981); National Commission for Employment Policy (1987); Congressional Research Service (1999); DOL (2002).

Notes: BLS = U.S. Bureau of Labor Statistics. LLS = lower living standard. YETP = Youth Employment Training Programs.

[a]Under JTPA an individual was defined as "economically disadvantaged" if he or she (a) received or is a member of a family who receives cash welfare payments under a federal, state, or local program; (b) is a member of a family that receives food stamps or received food stamps during the previous six months; (c) has family income, excluding unemployment insurance, child support, and welfare payments, during the previous six months that is no higher than the official poverty level or is no higher than 70 percent of the U.S. Bureau of Labor Statistics lower living standard; (d) is a foster child living in a family receiving payments from a state or local government; or is a handicapped adult whose income meets the eligibility standards, even if his or her family income exceeds it. There were no asset rules determining eligibility.

[b]Participant in a Chapter 1 compensatory education program under the Elementary and Secondary Education Act.

[c]The family income threshold that determines eligibility for school lunches under the National School Lunch Act is 130 percent of the poverty level.

[d]The statute allowed states to limit or extend these eligibility requirements.

[e]Under WIA the term "low-income" is defined similarly to the JTPA definition of "economically disadvantaged."

Table 8.9 National Performance Standards under JTPA Program Years (July 1 to June 30)

	1984–85	1986–87	1998–99
Adults under Title IIA			
Entered employment rate (all participants; %)	55	62	60[a]
Entered employment rate (welfare participants; %)	39	51	52[a]
Placement wage ($)	4.91	4.91	289[b]
Cost per placement ($)	5,704	4,374	n.a.
Youths under Title IIC			
Entered employment rate (all participants; %)	41	43	45
Positive termination rate ($)[c]	82	75	72
Cost per positive termination ($)	4,900	4,900	n.a.

Sources: NCEP (1987, 12, table 2); DOL, Employment and Training Administration website: wdr.doleta.gov/opr/performance/overview.asp.

Note: n.a. indicates not applicable.

[a]In program years 1998–99 the standard is the "follow-up employment rate."

[b]In program years 1998–99, the standard is the "follow-up weekly earnings."

[c]Includes enrollment in school, the military, or other non-Title II training, or completion of an educational degree.

ready applicants. These individuals would tend to have high postprogram employment rates and wages, even if the program itself had little impact on these outcomes. However, research on this issue indicates that (a) even if this shift had occurred it probably would not have lowered estimates of the effectiveness of JTPA, and (b) program operators did not appear to substantially cream-skim in response to these incentives (Heckman and Smith 1997b; Heckman, Smith, and Taber 1996).

JTPA has served an economically disadvantaged population. As was shown by table 8.7, JTPA provided employment and training services to approximately 800,000 economically disadvantaged persons each year. In 1985, more than one-half of its participants had not worked in the six months prior to their application to the program, 40 percent were receiving public assistance, 41 percent were high school dropouts, and 92 percent were from families in poverty.

The program did succeed in providing training opportunities to a large share of its participants. During program year 1985, approximately 35 to 40 percent of enrollees participated in CT, and about 20 to 25 percent of enrollees were placed in an OJT slot. Because few people received both services, this figure indicates that during any given year as many as 65 percent of JTPA participants received some skill training. This emphasis on CT remained strong and even grew as the program evolved. This growth in CT occurred as the share of OJT participants declined. During JTPA's early years the median CT participant received instruction for approximately

eighteen weeks, but this measure increased during the 1990s (NCEP 1987; Social Policy Research Associates [SPR] 1999).

Despite JTPA's emphasis on serving the most economically disadvantaged, Title III of the act did provide explicitly for job search and training services for displaced workers. (These persons are defined when we described the WIA program.) Because they tended to have substantial employment histories, participants under this title of the act were more skilled than other JTPA participants. In addition, they have tended to be more skilled than the unemployed who received PSE under Title VI of CETA (NCEP 1987). Despite the large numbers of displaced workers in the 1980s, Congress initially appropriated little funding for this group. During the mid-1980s, expenditures were no more than $350 million per year (NCEP 1987; Barnow and Aron 1989).

During JTPA's existence Congress made two significant policy changes that affected services to displaced workers. First, the Omnibus Trade and Competitiveness Act (1988) underscored policymakers' desire to shift away from providing low-cost job search skills to training participants and instead emphasize more expensive training activities. Under these amendments 50 percent of local funds for displaced workers were to be spent on training activities instead of job search assistance. Further, persons receiving assistance under the Trade Act (1974) now had to participate in CT or OJT as a condition for receiving extended unemployment insurance benefits.[10]

The second change occurred during the mid-1990s when the Clinton Administration proposed expanding funding of employment and training services for displaced workers. As was shown by table 8.8, by program year 1997 expenditures exceeded $1 billion per year despite the strong economic expansion. This increase foreshadowed the policy change reflected the following year in the Workforce Investment Act, in which policymakers appear to have refocused low-cost employment and training services away from the most economically disadvantaged and toward a broader segment of the population.

Toward the end of JTPA, these policy changes also affected economically disadvantaged youth. The original legislation instructed locales to spend at least 40 percent of their funds (under Title A, C) on youths. As recently as 1993, these expenditures totaled more than 600 million and the program served 280,000 youths (DOL 1996). During the mid-1990s Congress sharply cut expenditures on youth services. By program year 1997, expenditures for these low-intensity services (under Title IIC) had fallen to only $130 million. One important reason for this change was research from

10. Congress established the Trade Adjustment Assistance program (TAA) in the early 1960s to provide supplemental unemployment benefits to workers who lost their jobs as a result of trade liberalization. In 1974, Congress expanded the program's scope to cover workers who had lost their jobs as a result of increased foreign trade.

the nonprofit and academic community showing that low-intensity non-comprehensive training services were not effective for youths. The final blow for these services came with the results of the National JTPA Study, a social experiment conducted starting in the late 1980s, which showed that even after four years neither youth participants nor society benefited from these services (Orr et al 1994; Bloom et al. 1997; U.S. GAO 1996).

8.2.3 The Workforce Investment Act of 1998

Policy Goals of the Workforce Investment Act

Today, a large portion of current federal policy is governed by the Workforce Investment Act of 1998 (WIA), which took effect in July 2000. The passage of WIA signaled policymakers' intent to consolidate the assortment of existing federal and state education and training programs and to coordinate them with existing social services. To this end, the act folds JTPA and other employment and training and work-welfare programs into a broader system designed to manage and develop the nation's human resources. Besides these programs, other programs covered under WIA include those formerly under the Adult Education and Family Literacy Act, employment services under the Wagner-Peyser Act, and the Rehabilitation Act. In addition, the legislation also allows states to design programs that incorporate appropriate resources available under the Food Stamp Act of 1977, the Trade Act of 1974, certain programs under the Social Security Act, and the training activities of the Department of Housing and Urban Development.

Although WIA increases states' ability to use several sources of federal dollars to develop their own employment and training policies, the federal government still maintains some control over their programs. The statute requires each state to submit a "training plan" for approval to the DOL. As part of the plan governors must establish Workforce Investment Areas within their states. Within these areas Workforce Investment Boards, consisting of representatives from business, labor, the community, and of elected local officials, govern these programs. Within the constraints set in the statute, they decide whom to service, what kinds of services to provide, and who should provide the services. However, the programs developed by the local boards must include the range of employment and training services previously described (in table 8.1) and offered to specific groups within the eligible population.[11] Further, federal authorities must approve the aggregate performance of the state's training providers.

11. WIA requires local programs to include the following elements: (a) tutoring, study skills, instruction to complete secondary school or GED, dropout prevention strategies; (b) summer employment opportunities for youths; (c) work experience; (d) OJT and CT; (e) supportive social services such as child care and transportation; (f) follow-up services; and (g) comprehensive services, such as counseling, substance abuse referrals, mentoring, and leadership development.

An important goal of WIA is that participants should be able to attain access to the array of employment and training and supportive services, including educational services in one location. Accordingly, WIA requires that each Workforce Investment Board establish at least one "one-stop career center" within its jurisdiction.[12] All labor exchange services that have been provided through the employment service (under the Wagner-Peyser Act) must be delivered through these centers.[13] Policymakers designed the one-stop centers so that all groups in the population have access in one physical location to information about employment and training services as well as other supportive social services. State employment service agencies not only are a partner in these one-stop centers and serve on local boards, as required by the statute, but in practice they operate these centers.

Although WIA makes several potential important changes in the administration of U.S. employment and training policy, it does not substantially alter the menu of services available to participants. Instead, policymakers intend that two components of the legislation operating together will improve the effectiveness of these services. Consequently, policymakers intend that even though the mix of services probably will not change much under WIA, these administrative changes will enable local authorities to better serve their clients and will cause WIA-sponsored programs to have larger impacts than prior training initiatives. A premise of the act is that greater "customer" choice will lead to better use of training resources. By contrast to past practices in which local authorities sent participants to pre-subcontracted training providers, under WIA, adult participants are given voucherlike individual training accounts that they may use to purchase training services from previously certified training providers.

To facilitate "customer" choice, the legislation encourages local boards to increase the number of certified training providers. In addition, the act expands reporting requirements for training providers. WIA participants are to have access to information that compares alternate providers' program completion rates, entered employment rates, and wage rates for their former participants. The intention underlying these reporting requirements is that by using this information, WIA participants should be able to make more informed decisions about the quality of training providers and to use their vouchers to "buy" training from providers with better programs.

12. The DOL began to experiment with one-stop centers starting in 1994 when it awarded grants to six states—Connecticut, Iowa, Maryland, Massachusetts, Texas, and Wisconsin—to develop and implement one-stop systems.

13. Unlike the use of Section 7(a) funds, WIA does not require all Wagner-Peyser funds to be used as part of the one-stop centers. For example, Section 7(b) funds, known as the "Governor's reserve," are excluded from this requirement.

Who Is Served by WIA?

As summarized by table 8.8, under WIA there is no requirement that eligible adults be from low-income families. Instead, the legislation simply states that operators give priority to persons receiving cash assistance. This distinction in eligibility criteria for youths and adults is a departure from the policy under WIA's predecessor, JTPA. During the tenure of JTPA, most adult and youth participants had to be classified as "economically disadvantaged." The legislation defined such individuals as meeting one of several criteria: They (a) received or were a member of a family who received cash welfare payments under a federal, state, or local program; (b) were a member of a family that received food stamps or received food stamps during the previous six months; (c) had family income, excluding unemployment insurance, child support, and welfare payments, during the previous six months that was no higher than the official poverty level or no higher than 70 percent of the U.S. Bureau of Labor Statistics lower living standard; (d) were a foster child living in a family receiving payments from a state or local government, or were a handicapped adult whose income met the eligibility standards, even if their family income exceeded it.

By contrast, under WIA, eligible fourteen- to twenty-one-year-olds generally must be from low-income families. In addition, the statute requires that they also possess one of the following "barriers" to employment: They must be deficient in basic skills, a high school dropout, homeless or a foster child, pregnant or a parent, an offender, or in need of additional assistance in order to complete school. This low-income eligibility standard for youths is similar to the economically disadvantaged concept used under JTPA.

For adults, WIA essentially combines adult services previously provided under two different sections of JTPA that had different eligibility criteria. "Adult Activities" now encompass services previously targeted to economically disadvantaged persons aged twenty-two and over (under JTPA Title IIA) and services targeted toward unemployed adults (under JTPA Title III). Many participants in this later group have not been from low-income backgrounds.[14] As shown in the last column of table 8.8, under JTPA such unemployed adults were eligible for services and classified as displaced workers if they had been (a) laid off and either were ineligible for or had exhausted their unemployment insurance benefits, and were unlikely to return to their previous industry or occupation; (b) terminated because of a plant closing or a mass layoff;[15] or (c) unemployed for a long period and had had limited opportunities for finding work. Further, the act

14. WIA also lowers the age threshold to qualify for Adult Activities to eighteen years.

15. Individuals whose former employer had to provide them with sixty days' advance notice of a layoff or plant closing under the Worker Adjustment and Retraining Act (1988) were eligible for JTPA services.

gave states considerable authority to identify persons that fit these definitions of a displaced worker. Because of these eligibility criteria, many of JTPA's displaced workers have been relatively skilled. For example, during the 1997 program year, 35 percent of such participants had earned more than $15 per hour in their previous jobs (SPR 1999). Consequently, policy changes under WIA probably enable authorities to provide employment and training services to a less economically disadvantaged adult population than they could under JTPA.

WIA Expenditures and Participation

Because WIA has just begun operating, there are no statistics available on participation and relatively little information on expenditures for each of the service categories summarized in table 8.1. Statistics for FY 2001 indicate that the federal government spent about $2.4 billion on "Adult Activities," including 1.4 billion for "dislocated workers employment and training activities." In addition, the federal government spent $1.4 billion each for "Youth Activities" and the Job Corps and $500 million for an array of small national programs. Because of the role of the employment service (ES) in operating the program's one-stop centers, some of the $1 billion spent on the ES should be considered part of the WIA policy. Accordingly, a rough but reasonable estimate of current federal expenditures on employment and training programs for the economically disadvantaged and the unemployed is about $6 billion (DOL 2002).

Recent statistics for program year 1997 under JTPA likely depict the participation and expenditure patterns that will manifest themselves during the early years of WIA. As shown by table 8.10, federal policymakers allocated approximately $2 billion to fund services for economically disadvantaged adults and for displaced workers. By contrast, expenditures on services for full-year services for youths amounted to only about $130 million. During this period a combined total of more than 450,000 adults and approximately 88,000 youths left the program. The second row of the table also indicates that a sizable share (25 percent) of economically disadvantaged adults who left the program received no services other than an assessment by program officials.[16]

As suggested by the differing eligibility criteria for its services, JTPA programs attracted a diverse group of participants. Services for which eligibility is means-tested have been provided for the intended economically disadvantaged population. Youth participants have been particularly disadvantaged, which might be expected as their eligibility criteria includes a

16. These figures do not include youth participants in Job Corps (under Title IV) or the Summer Youth Programs (under Title IIB). These programs are discussed above. Under WIA Job Corps remains intact and continues to be operated at the federal level. The Summer Youth Programs are no longer funded as a separate item, but the statute requires local authorities to provide these services as part of their youth activities.

Table 8.10 **Participation, Expenditures, and Characteristics of JTPA Terminees ($ in group for program year 1997)**

	JTPA Program		
	Title II-A Adult Services	Title II-C Youth Full-Year Services	Title III Displaced Workers
Terminated	198,033	88,438	266,112
Number who received services	147,717	74,816	n.a.
Allotments	$0.89 billion	$0.13 billion	$1.03 billion
Sex			
Female	68	59	54
Male	32	41	46
Age			
18–21	n.a.	57	n.a.
20–29	41	n.a.	18
30–44	47	n.a.	46
45+	12	n.a.	35
Ethnic background			
White	45	38	65
Black	34	33	19
Hispanic	17	24	12
Education level			
Less than high school	21	71	12
High school graduate	57	26	50
Post-high school	21	3	38
Single parent	47	20	15
Reading level			
Less than 7th grade	13	28	9
7th or 8th grade	16	23	10
9th grade+	71	50	81
No job in prior 26 weeks	51	74	17
Unemployment insurance claimant	12	7	69
Food stamps	53	39	7

Sources: Social Policy Research Associates (1999, p. II-2, table II-1; p. 8, table II-4; p. III-2, table III-1; p. III-6, table 3; p. V-2, table V-2; p. V-2, table V-1; p. VI-4, table VI-2).

Note: n.a. indicates not applicable.

barriers-to-employment test in addition to an income test. The vast majority of youth participants have not had a job in the previous six months, even though most of these participants were aged eighteen years or older. One-half of them read at the eighth-grade level or less, and only somewhat more than a quarter of them had a high school degree.

Adult participants under Title IIA of JTPA are somewhat less disadvantaged than the youths. Nevertheless, about one-half had not had a job in more than six months, slightly more than one-half received food stamps, about 30 percent of participants read at the eighth-grade level or below, and about one-fifth were high school dropouts. As shown by contrasting the figures in the first and third columns of table 8.10, the adult displaced

workers who received JTPA services under Title III were more skilled. They had a larger percentage of workers with post–high school education, higher reading levels, and better work histories. Because unemployment is an eligibility criterion for these services, it is not surprising that more than two-thirds had received or were receiving unemployment insurance benefits, and relatively few of these participants were receiving food stamps.

JTPA participants have several other characteristics that are worth noting. First, the majority of adult and youth participants are women. Even among Title III participants whose eligibility depends on having been displaced, 54 percent of participants are women. Second, adult participants in both Title II-A programs for the economically disadvantaged and Title III programs for the unemployed are not especially young. The typical recipient of both service categories is aged between thirty and forty-four years. Among those receiving Title III services, more than one-third of participants are over forty-five. Finally, the majority of adult participants, even those receiving Title II-A services, are not single parents, but are from two-parent households or are single.

The recent JTPA program statistics also help portray the likely distribution of participants among the broad categories of services depicted in table 8.1 during the early years of WIA. These statistics suggest that CT will be the most important adult activity under WIA, but that youths will receive a more diverse set of services. As shown by table 8.11, the most common service received by adult JTPA participants during program year

Table 8.11 **Distribution of Program Services for JTPA Terminees (% receiving service for program year 1997)**

	Title II-A Adult Services		Title II-C Youth Full-Year Services		Title III Displaced	
Workers	Females	Males	Females	Males	Females	Males
Service received (%)						
Basic skills	21	16	44	50	13	10
CT	68	59	39	26	51	48
OJT	8	15	2	2	4	5
WE	5	5	25	32	n.a.	n.a.
Other	13	14	32	37	n.a.	n.a.
Two or more	19	15	37	41	8	7
Time receiving training						
% with zero hours	8	10	6	6	40	42
Average hours	440	329	372	321	289	268

Sources: Social Policy Research Associates (1999, p. II-14, table II-6; p. III-14, table III-8; p. V-15, table V-6).

Notes: n.a. indicates not applicable. The figures for the Title II-A and Title II-C programs exclude 25 percent and 15 percent, respectively, of all terminees who did not receive any services beyond a formal assessment. Information on eligibility for these programs is found in table 8.7.

1997 was vocational classroom training. More than two-thirds of the female participants received this service. The percentages of displaced male and female workers receiving this service are smaller, but these differences largely reflect the different ways these measures are reported for the two groups. The figures calculated for the economically disadvantaged participants exclude those participants who received only an "objective assessment" by program officials.

Turning to the other figures in the table, much smaller percentages of male and female participants received OJT, although among disadvantaged participants, about one-sixth of the males received this service. Among adults, between 10 and 20 percent received basic skills training; this percentage was larger for economically disadvantaged men and women than it was for displaced workers, as was expected based on differences between the two groups' baseline characteristics.

Finally, as shown by the sixth row in the table, nearly one-fifth of the female participants and nearly one-sixth of the male participants received services from two or more of the categories listed in the table. This result is not surprising because policy encourages program operators to customize a package of services for each participant. When program operators assess a potential participant they devise a training plan. This plan often recommends that the participant receive a sequence of services. Any of these services alone might lead to improved outcomes. Consequently, a consideration when evaluating the effectiveness of one category of services is that participants also may have received services from other categories.

The distribution of Title II-C youth participants among the service categories differs from the adults in several respects. First, youths are more likely than adult participants to receive two or more of the services described in the table. Second, nearly one-half received basic skills training, while 39 percent of the males and 26 percent of the females received CT. Third, more than one-quarter received WE, whereas only very small percentages of adults received this service. Finally, by contrast to the adults, few youths received OJT.

WIA's Place among Other Active and Passive Labor Market Policies

The foregoing description of recent expenditures and participation patterns in employment and training programs is for just one of several federal programs that have been providing these services. For some time, U.S. employment and training policy has manifested itself as a complex patchwork of federal education and training programs. Each program has its own goals and rules governing eligibility. Although JTPA and its successor, WIA, have been the most prominent of these programs, taken together these other federal programs have cost as much to operate and, if anything, serve more people.

Each of these employment and training programs operates in a policy

environment in which there are substantial federal, state, and local subsidies for postsecondary schooling as well as vocational education in secondary schools. Depending on the program, these subsidies are received both by the individual and by the institutions providing the schooling or training. The program rules governing which individuals receive these subsidies also differ from those of JTPA. Yet JTPA's CT often takes place in a community college, and sometimes JTPA participants receive this training in the same classroom as other non-JTPA participants. Many of these non-JTPA students are likely from low-income households or are recently unemployed. As a result, figures on the resources spent on programs like JTPA and how they are distributed among service categories provide information on only a portion of U.S. employment and training policy.

The listing of alternative employment and training programs in table 8.12

Table 8.12 Expenditures and Participants in Employment and Training Programs

Program	Department	Expenditures ($000,000s)	Participants (000s)
Unemployment insurance	Labor	21,900	7,800
Employment service	Labor	811	21,346[a]
Postsecondary education			
Pell grants	Education	5,788	3,743
Family Education Loan Program	Education	5,825	5,326
Supplemental opportunity grants	Education	583	991
Perkins Loan Program	Education	166	697
Work study	Education	617	713
Postsecondary employment and training			
JTPA			
Adult	Labor	1,015	389
Youth Summer	Labor	677	648
Youth	Labor	651	360
Dislocated Workers	Labor	571	312
Job Corps	Labor	966	101
JOBS	HHS	1,000	545
Other employment and training programs			
Vocational rehabilitation	Education	1,873	1,049
Vocational rehabilitation projects	Education	29	24
Rehabilitation employment services	Education	32	24
Trade Adjustment Assistance	Labor	75	27
Food Stamp Employment and Training Program	Agriculture	135	1,400
Senior Community Service Employment Program	Labor	396	97
Disabled Veterans Outreach Program	Labor	79	932
Targeted Jobs Tax Credit	Treasury	n.a.	632[b]

Source: NCEP (1995, pp. xii–xvi).

Notes: HHS = U.S. Department of Health and Human Services. N.a. indicates not available. Figures are for FY 1993.

[a]Number of unduplicated registrants, see note 17 in text.

[b]The figure is the number of vouchers.

is not complete, but the most important ones are included. For comparison purposes, the first two rows of the table report the expenditures and number of participants in the Unemployment Insurance Program and the ES (i.e., Wagner-Peyser Act). The first of these comparisons reflects the degree of policy emphasis on active versus passive labor market policy. Compared to European countries, expenditures in the United States on active policies, which encompass employment and training services, compared to passive policies, which encompass unemployment insurance benefits, are relatively small (Heckman, LaLonde, and Smith 1999).

The second row of table 8.12 provides a glimpse of the number of persons that potentially enter the system each year. Most recipients of unemployment insurance and most social welfare recipients are required by law to register with the employment service. But any job seeker, whether unemployed or not, may register to use the ES services.

During the 1990s, approximately 16 to 20 million (different) persons registered annually with the ES. By registering or applying, these individuals gained access to the job matching and training referral services offered by the program.[17] In a typical year, 20 to 30 percent of these persons received a referral, and somewhat less than one-third of those with referrals obtained a job placement. Only a small fraction of the ES's referrals have gone to employment and training participants. However, such persons are more likely to receive JSA and referrals to training.

Table 8.12 also reveals that expenditures and participation in means-tested grant and loan programs for higher education are also greater than for the entire array of employment and training programs. A complete accounting of employment and training programs would in principle attempt to sort out the extent that these other programs constitute substitute services to those offered under JTPA and similar programs.

8.3 Economic and Evaluation Issues

8.3.1 Economic Rationale

The policy rationale underlying employment and training programs is not precise but often turns on one of several arguments. First, joblessness is costly because of the effects it has on state and federal budgets. Consequently, to reduce dependency on various social welfare programs, governments have an incentive to provide job training so that jobless persons become economically self-sufficient. Second, joblessness is costly to the nation not only in terms of lost output and tax revenues, but also in terms

17. This figure is intended to be the number of unduplicated registrants. Persons would be double-counted if they registered with the employment service in two different states. The most recent figure for the number of annual registrants is approximately 16 million. This information is available from the DOL, Employment and Training Administration.

of the social costs associated with a rising incidence of substance abuse, crime, and broken homes, as well as costs associated with the loss of individuals' self-esteem that is thought to come from work. To reduce these costs the government invests in job training programs (NCEP 1987).[18] Moreover, low-income persons lack the resources to invest on their own in job training. Further, because low-income persons face capital constraints, there are social benefits associated with subsidizing training. Despite the intuitive appeal of the last of these rationales, there is little evidence that capital constraints can explain the low skill levels among persons likely to participate in government training programs (Heckman and Smith 1998).

The rationale for subsidizing employment and training programs depends on the reasons that motivate individuals to participate in them in the first place. In most studies of these programs, the determinants of program participation receive attention only because they provide input into econometric procedures that deal with selection bias when estimating the impact of training. However, recent research suggests that study of the determinants of program participation also helps us to understand why individuals participate in these programs and what rationale may motivate public subsidies for these activities (Heckman and Smith 1997; Jacobson, LaLonde, and Sullivan 2002).

As we have discussed, nearly 1 million people enrolled annually in programs operated under JTPA. The vast majority of these persons participated voluntarily. A common view is that these individuals participated for the same reasons that they might have gone to school. If we adopt a schooling model to characterize this process, individuals take training if they expect that the private benefits exceed the private costs. The private benefit includes the subsequent earnings gains associated with training. The total cost of training includes earnings forgone during training and the costs of tuition and supplies, as well as any psychological costs associated with learning in a classroom setting. This model assumes that when in training, individuals forgo labor market opportunities. In the case of government-sponsored training, these costs are sometimes partially or completely subsidized.

More formally, if training takes one period to complete, credit markets operate perfectly, individuals' remaining work lives are N periods, and earnings are zero during training, then individuals seeking to maximize their discounted lifetime earnings participate in training when

$$\frac{\beta_i}{r}\left[1-\left(\frac{1}{1+r}\right)^N\right]-Y_{is}-c_i>0. \tag{1}$$

18. This is the view expressed by the NCEP. The Commission was an independent federal agency established by Congress under Title IV, Section F of the JTPA. Its purpose is to advise Congress and the president on broad employment policy as well as to evaluate JTPA programs.

In equation (1), β_i is the impact of training on earnings for an individual during each period after training is complete. The term $\beta_i/r[1 - 1/(1 + r)^N]$ is the discounted gain from participating in training during the remaining N periods of an individual's work life. The term Y_{is} denotes forgone earnings during the training period s, and c denotes the (private) direct costs of training, such as tuition. We can modify this specification to account for skill depreciation and part-time work during training.

In the foregoing model, individuals participate in training when the impact, β_i, is large. But they also tend to participate when the direct costs of training, c_i, are low, when they are young (so N is large), when they have low earnings, or if they experience an adverse earnings shock during or prior to the training period.

Government training programs affect participation by reducing the private costs of participation. Under programs such as WIA and JTPA, the public sector subsidizes the direct costs of training, c_i. The government has also sometimes subsidized a portion of the forgone earnings costs of training, Y_{is}. Under MDTA and CETA, stipends were often paid to trainees. Today some states allow unemployment insurance recipients to satisfy the "work test" if they participate in an approved training program. Similarly, persons displaced because of imports, including those deemed to have been affected by NAFTA, are eligible to receive extended unemployment insurance benefits if they are enrolled in a training program.

By subsidizing the costs of training, the government increases participation in training. Under some circumstances, this policy also might lead to increased participation among individuals who expect to derive relatively small benefits from training. Consider that the impact of training, β_i, likely varies among individuals. Individuals who expect to derive small gains from training participate only when the private costs of training are low.

The foregoing model provides the theoretical basis for much of the evaluation research on training programs. In particular, it motivates a variety of longitudinal strategies for evaluating these programs, discussed in Ashenfelter (1978); Heckman and Robb (1985a,b), and Heckman, LaLonde, and Smith (1999). A strength of this model is that it corresponds with one of the most consistent empirical findings in this literature. Starting with Ashenfelter's (1978) study of 1964 participants in the MDTA program, many analysts have reported that the earnings of training participants decline just prior to their participation in the program. A nearly universal feature of the data from job training programs is that training participants (a) have low pretraining earnings and (b) experience a decline in their mean earnings prior to their enrollment. For the vast majority of demographic groups and programs, there is a decline in participants' average earnings just prior to the date they enter the program. The drop is most pronounced for white males. (For a fuller discussion of this finding and

some examples, see Heckman and Smith 1999; Heckman, LaLonde, and Smith 1999).[19]

Despite the appeal of the schooling model for characterizing participation in government training programs, it may not be the right model. In section 8.2, we observed that many employment and training services could be better characterized as having a job placement rather than a training motive. These programs provide individuals with information about the labor market, employers, and their own set of skills so that they can better match themselves to an appropriate job. In practice, even OJT may offer very little training, but may instead provide a subsidy to employers to learn about prospective low-income hires.

This characterization of employment and training programs is consistent with the view that individuals participate in training to find a job. It also is consistent with the emphasis on job placement in employment and training policy. Studies indicate that people enroll in training programs when they are unemployed, and that transitions into unemployment—whether from employment or from out of the labor force—are strong predictors of participation (Sandell and Rupp 1988; Heckman and Smith 1997). Earnings dynamics that appear so important in predicting program participation appear likely to be explained by dynamics in employment rates. Card and Sullivan (1988) find that the quarterly employment rates of CETA participants dip prior to participation, and Ham and LaLonde (1990) report the same pattern in semimonthly employment rates of very disadvantaged AFDC participants in the National Supported Work Demonstration. Indeed, Heckman and Smith (1997) characterize the participation process as being one motivated by "displacement" from employment and from out of the labor force.

Therefore, an important reason that individuals enroll in employment and training programs is to facilitate their job search. In the context of a job search model, they enter training (a) to increase the arrival rate of job offers and (b) to improve their wage (offer) distribution. However, given that the literature reveals little evidence of wage impacts of these programs, no matter what the motive for participation, it is reasonable to focus on the

19. Several institutional features of most training programs suggest that the participation rule is more complex than that characterized by this simple schooling model. Eligibility for training is partly based on a set of objective criteria, such as family income being below some threshold. For example, under JTPA, single household heads can enroll in publicly subsidized training in Title II programs only if they have had low earnings. Therefore, it is possible that Ashenfelter's dip results from the operation of program eligibility rules that condition on recent earnings (Heckman and Smith 1999). Such rules may select individuals with particular types of earnings patterns into the eligible population. Devine and Heckman (1996) demonstrate that certain family income processes can generate such dips. However, they also show that the substantial difference between the mean earnings patterns of JTPA participants and persons eligible for JTPA implies that Ashenfelter's dip does not result from the mechanical operation of program eligibility rules.

first reason why individuals enroll in these programs. Individuals enroll in training because the expected increase in arrival rates of job offers increases the value of unemployment.

This job search view of training participation also is consistent with the relatively short durations of participants' stays in CT. If there is an important networking component to CT, then people would use CT to facilitate finding a job and would leave the program when they are employed and before training is completed. Indeed, some of the literature reports substantial variation in the duration of training spells even among participants who are observationally similar (Heckman, LaLonde, and Smith 1999).

If the schooling model is not the best way to characterize the participation process, rationales for public support of these activities that are based on the idea that training programs are like schooling are weakened. The idea that targeted individuals face capital constraints becomes a weaker rationale for subsidizing training absent a strong schooling motive. Further, much of CT already takes place in heavily subsidized community or junior colleges.

Instead, the evidence on individuals' participation decisions suggests that individuals may enroll in these programs to learn more about the labor market and themselves. The rationale behind subsidizing these services is in this case similar to that for subsidizing the employment service. By providing information about the world of work, policymakers facilitate the creation of productive job matches. The establishment of one-stop centers in each Workforce Investment Area (under WIA) underscores policymakers' intent to better link the employment and training industry with the job matching responsibilities of the employment service.

8.3.2 Methods Used to Evaluate Training Programs

During the 1970s, evaluations of government employment and training programs began to accumulate. The question most often asked by evaluators was the following: "What is the difference between participants' post-program earnings and the earnings that they would have received had they not participated in training?" Although other outcomes are of interest, most evaluations of U.S. programs have focused on the impact of training on subsequent earnings.

One argument for this focus is that the impact of training on earnings includes its impact on employment rates, hours paid for among the employed, and hourly or weekly wage rates (Ashenfelter 1974). Another reason so many evaluations focus on earnings is that these studies often use administrative data to estimate the impact of training. These data usually contain only measures of quarterly or annual earnings, or social welfare receipts. Wage data, which is important for assessing whether training raises worker productivity, has rarely been available for U.S. studies.

Despite the seeming simplicity of the central question in these studies,

the impact of these programs remains a controversial topic (Heckman et al. 1999). Besides providing information on these programs' effectiveness, an important contribution of the literature on the evaluation of public-sector employment and training programs has been the attention given by researchers in this field to the empirical methods used to identify and to estimate impacts. Most of these methodological studies have been concerned with estimating the impact of government-sponsored training programs in the United States. However, the same issues underlie studies of not only similar programs abroad and of training in the private sector, but also more generally the impact of any policy intervention—whether means tested or not—on individuals.

There have been several influential papers that have contributed to the development of methods used to evaluate these programs. These papers include those by Goldberger (1972); Heckman (1978); Ashenfelter (1978); Barnow, Cain, and Goldberger (1980); Ashenfelter and Card (1985); and Card and Sullivan (1988). The papers by Heckman and Robb (1985a,b) constitute the classic reference for this literature. They describe these alternative methods in detail and introduce a variety of new approaches. More recent surveys by Moffitt (1991) and Heckman, LaLonde, and Smith (1999) provide extensive summaries of this literature. Because of the wealth of existing material on the methods used to evaluate employment and training programs, this chapter provides only a brief summary of some of the key issues.

The Evaluation Problem

The central problem underlying empirical studies of employment and training programs is that it is impossible to observe the same person experiencing two different states at the same time. For individuals who received training, we cannot observe what they would have experienced had they never been trained.[20] If we could observe this counterfactual state, we could measure the impact of training for each individual.

Because it is impossible to observe this counterfactual, evaluators have usually sought to define the conditions under which it is possible to estimate the mean impact of training either for (a) a sample of trainees or (b) a population of eligible persons. Most program evaluations have one of these two goals. The first and most common objective has been to estimate the conditional mean impact of training on those who actually participated: $E(\Delta_i|D_i = 1)$, where Δ_i is the impact of training for individual i, and $D_i = 1$ denotes whether the individual received training. This measure is known as the impact of the "treatment on the treated."

A second and less common objective of program evaluations has been to estimate the unconditional mean impact or $E(\Delta_i)$, which measures the average impact of training for a randomly selected sample of individuals

20. For potential exceptions, see Holland (1986).

from the eligible or target population. When training has the same impact on all potential participants, these two measures of the impact of training are identical. However, when training affects people differently and individuals self-select into training partly based on their expected gains from the program, these measures are not the same.

Econometric work usually seeks to estimate structural parameters, such as the "unconditional" mean impact of training. But when evaluating employment and training programs, this conventional parameter is not very useful for policy purposes. Participation in training is voluntary. But knowing what amounts to the weighted average of the effect of the treatment on the treated and the impact of training on those who were not trained should not be of much interest to policymakers. In the context of U.S. programs, this point is strengthened by the observation that only a very small percentage of eligible persons receive these services each year (Devine and Heckman 1996). An interesting alternative to this parameter is the impact of training on the "marginal" participants (Heckman, LaLonde, and Smith 1999; Aakvik, Heckman, and Vytlacil 1999).

To estimate the impact of training on earnings for those who received training, we need to estimate trainees' earnings had they not been trained. In nonexperimental settings, there are two common solutions to this problem. The first approach is to estimate the counterfactual outcome using the trainees' preprogram outcomes. This approach relies on a before-after comparison.

The second approach is to use the earnings of a comparison group of nontrainees or "no-shows" to the program. The impact of training is then measured as the (regression-adjusted) difference between the mean earnings of training participants and nonparticipants. This approach produces unbiased estimates of training if those who self-select into employment and training programs would have had the same (regression-adjusted) mean outcomes in the absence of training as those individuals in the comparison group. As discussed below, this premise generally is unlikely to hold. If participants selected themselves into training because they had poorer labor market prospects than nonparticipants, the estimated impact of training would be downward biased. The most challenging task for program evaluators is to provide a rationale for why their econometric methodology eliminates selection bias.

Nonexperimental Methods

The nonexperimental approaches to the evaluation problem can be sorted in three categories: (a) method of matching, (b) cross-sectional methods that formally model the selection process, and (c) longitudinal methods.

Methods of Matching. Many program evaluations done by social science consulting firms have identified the impact of employment and training

programs using one of several forms of matching. To be sure, most program evaluations use a type of matching when they adopt the practice of screening out of the comparison group individuals who did not satisfy the program eligibility criteria.

The premise underlying the method of matching is that the selection process into the program is captured by observed variables (Rubin 1973). Accordingly, the difference between the outcomes of observationally similar trainees and comparisons produces an unbiased estimate of the training effect. More formally, let X_i be a vector of observed characteristics for individual i, and Y_{i11} equal the outcome if the individual participated and received training; Y_{i10} equal the outcome had the individual who did not participate receive training; Y_{i01} equal the outcome had the individual participated but been denied training; and Y_{i00} equal the outcome if the individual did not participate and did not receive training. The crux of the evaluation problem is that we can not observe $Y_{i11} - Y_{i01}$ for any individual. Instead, we observe Y_{i11} for each of the trainees and Y_{i00} for each of the comparison group members. Both theory and empirical evidence indicate that the selection process into training causes the mean difference between these two outcomes to be a biased estimate of the effect of the treatment on the treated.

The method of matching assumes that once we condition on the vector of observed characteristics, the mean outcome for the trainees had they not received training would equal the mean outcome of the comparisons: $E(Y_{i01}|X) = E(Y_{i00}|X)$. Conditional on the observed characteristics, an unbiased estimate of the training effect, X, is the difference between the conditional mean outcome for the trainees and the conditional mean outcome for the comparisons: $\Delta(X) = E(Y_{i11}|X) - E(Y_{i00}|X)$. An estimate of the mean treatment effect is $\Delta = \Sigma w(X)\Delta(X)$, where the weight, $w(X)$, is the share of trainees with values of $X = x$.

There have been three variants of this method used in the evaluation literature. One approach is known as "cell matching." This procedure is especially practical when there are few available observed characteristics and they are discrete. In this case, it is straightforward to divide the samples of treatments and comparisons into cells—for example, (a) high school dropout and single; (b) high school dropout and married; (c) high school graduate and single; and (d) high school graduate and married. Analysts then compute the difference between mean outcomes within each cell. Card and Sullivan (1988) present an intuitively appealing application of this approach when estimating the impact of training on the employment rates of the 1976 CETA cohort. In their study, they match trainees to comparison group members who had exactly the same employment history during the years leading up to the training year.

A second approach to matching is used when there are many available characteristics, especially when some are continuous. The idea underlying

statistical matching is to find an exact match or "nearest neighbor" for each person in the training group from among a sample of nontrainees (Rubin 1979; Dickinson, Johnson, and West 1986; Heckman, LaLonde, and Smith 1999). The Mahalanobis distance has been one of the most common metrics used to select an appropriate comparison group. Predicted earnings is another potential metric, but this approach appears to produce comparison groups whose members have significantly different baseline characteristics from those of the trainees (Fraker and Maynard 1987).

Finally, a third approach has matched trainees and comparisons with the same or similar "propensity scores" (Rosenbaum and Rubin 1983). In this context, the propensity score is the predicted probability that a person in the training group or the comparison group would participate in training given his or her observed characteristics. An advantage of this approach is that it reduces the "dimensionality" of the matching problem by enabling the analyst to match on a single value, the propensity score $P(X)$, instead of matching on many values of X.

To implement this approach, evaluators first estimate a logit model to obtain estimates of $P(\mathbf{Z})$, where $\mathbf{Z}$ is a vector of individual characteristics and their interactions thought to be correlated with individuals' participation in training. Then, using one of a variety of different procedures, evaluators match trainees and comparisons with similar $P(Z)$ (Heckman, Ichimura, and Todd 1998; Dehejia and Wahba 1999). Some important recent work using a sample of JTPA-eligible individuals has shown that it can be difficult to find comparisons from economically disadvantaged populations whose characteristics imply that they have a high probability of participating in the program (Heckman et al. 1998).

Cross-Sectional Methods and Selection on Unobservables. The basic model used in cross-sectional methods is derived from the dummy endogenous variable model developed in an influential paper by Heckman (1978). In most work adopting this approach, analysts assume that the outcome of interest, usually quarterly or annual earnings, is a function of a set of individual characteristics, X_i, a dummy variable indicating whether an individual participated in training, D_i, and a residual denoting unobserved characteristics, ε_i:

$$Y_i = \beta \mathbf{X_i} + \delta D_i + \varepsilon_i. \tag{2}$$

In addition, these models specify a participation equation with a latent dependent variable that isolates the determinants of an individual's decision to participate in training:

$$D_i^* = \gamma \mathbf{Z_i} + \eta_I, \text{ where } D_i = 1 \text{ if } D_i^* < 0. \tag{3}$$

In equation (3), $\mathbf{Z_i}$ is a vector of observed characteristics that affect whether individuals participate in training, and η_i is a residual denoting

unobserved determinants of participation. Ideally, the vector $\mathbf{Z_i}$ includes characteristics that affect whether someone participates in training that are not included in $\mathbf{X_i}$ because they do not affect earnings. An example of such a characteristic might be the distance between a person's residence and a training center.

Evaluations that rely on cross-sectional methods generally adopt one of three approaches to identify the impact of training. First, the simplest approach requires imposing the strong assumption that the errors in the outcome and participation equations are uncorrelated: $E(e_i, \eta_i) = 0$. In this case, the training effects can be estimated simply by regressing the outcome, Y_i, on all observed characteristics, including those in $\mathbf{Z}$. This approach assumes that the trainees are selected into training based on some known characteristics (Barnow, Cain, and Goldberger 1980).

In the second approach, analysts relax the assumption that the errors in the outcome and participation equations are uncorrelated. Now it is assumed that there is selection on the unobservables. In this case, the training effect is usually identified from a combination of distributional assumptions about e_i and η_i and one or more restrictions on the vector of observed characteristics, $\mathbf{X}$. Less parametric methods have been proposed for identifying the training effect, although they have yet to be adapted in a significant amount of research (Heckman 1990; Powell 1994).

By far the most widely used method that follows this second approach is Heckman's two-stage estimator (Heckman 1979; Björklund and Moffitt 1987). Use of this estimator is especially common in evaluations of European employment and training programs. It has been used less frequently in U.S. evaluations, largely because these studies have relied less on cross-sectional data (Heckman, LaLonde, and Smith 1999). However, one of the most influential U.S. evaluations, Mathematica's evaluation of the 1977 Job Corps cohort, adopts this approach (Mallar 1978; Mallar et al. 1982).

A third approach to identifying the training effect uses the method of instrumental variables. This approach has been used rarely in conventional nonexperimental evaluations of training programs. In nearly all such studies, analysts have had difficulty producing a plausible instrument. Usually the available data have not been sufficiently rich to include any variables that might serve as an instrument. More fundamentally, the design of these programs creates an environment in which it is hard to construct a natural experiment.

Longitudinal Methods. The availability of federal and especially state administrative earnings records has fostered reliance on longitudinal methods to evaluate many U.S. employment and training programs. This practice has been heavily influenced by Ashenfelter's study of the 1964 MDTA cohort that relied on individuals' annual earnings records from the U.S. Social Security Administration (Ashenfelter 1978). A strength of administra-

tive data like those used by Ashenfelter is that they contain long earnings histories, both prior to and after training. Their shortcoming, however, is that they often contain little information about individuals' demographic characteristics.

Evaluations that use longitudinal methods identify the impact of training by assuming that the program does not affect earnings prior to individuals' participation in the program. They often rely on a model that assumes the following structure of earnings:

$$Y_{it} = \delta D_{it} + b_i + \lambda_t + \varepsilon_{it}, \tag{4}$$

where b_i is an individual fixed effect, λ_t is a common time effect, and ε_{it} is a random disturbance denoting individuals' unobserved characteristics that vary through time. A key assumption in these analyses concerns whether the residual is serially correlated. If movement in ε_{it} represents "transitory" movements in individuals' earnings, then a natural estimator of the impact of training is the least squares estimate of d in the following:

$$Y_{it} - Y_{is-1} = \delta D_{it} + (\lambda_t - \lambda_{s-1}) + (\varepsilon_{it} - \varepsilon_{is-1}). \tag{5}$$

In equation (5), period $s - 1$ is the period before training. Indeed, in the model depicted in equation (4), earnings in any pretraining period are sufficient to identify the impact of training. If no time-varying observed characteristics are available, the least squares estimate, also known as the difference-in-differences estimator, is simply the difference between the mean change in the trainees' earnings and the mean change in the comparisons' earnings.[21] If time-varying variables such as age are available, it is straightforward to include them in the model and estimate the training effect, δ, using least squares.

In practice, the problem with estimates based on equation (5) is that they overstate the impact of training (Ashenfelter 1978; LaLonde 1986; Heckman, Hotz, and Dabos 1987; Heckman and Hotz 1989; Heckman, LaLonde, and Smith 1999). The reason for this result is that movements in the residual, ε_{it}, are not necessarily transitory and are serially correlated. Changes in this component of earnings, $(\varepsilon_{it} - \varepsilon_{is-1})$, likely motivated the unemployed to participate in training. Empirical work indicates that this time-varying component of earnings is serially correlated. Trainees' earnings are not unexpectedly low simply during the training period; they tend to be unexpectedly low in prior periods as well. This tendency produces the phenomenon described earlier as Ashenfelter's dip. Under these circumstances it matters which pretraining year analysts use as the base year in the

21. To implement this estimator it is not necessary to have longitudinal data. If analysts have samples from repeated cross-sections of the same populations of trainees and controls, it is not necessary that the trainees and comparisons in the posttraining period be the same persons as the trainees and comparisons in the pretraining period (Heckman and Robb 1985a, b; Heckman, LaLonde, and Smith 1999).

difference-in-differences estimator. More refined evaluations of employment and training programs have used the availability of longitudinal histories to estimate the covariance structure of earnings (see Ashenfelter and Card 1985). Such analyses suggest among other things that the earnings model in equation (4) should also include an individual-specific time trend.

The Experimental Solution

A seemingly simpler approach to the evaluation problem is to adopt an experimental design. Randomization applied to the sample of individuals who apply for and are admitted into training solves the evaluation problem by creating a comparison group consisting of individuals who selected into training the same way as the trainees.[22] As a result of randomization, the distributions of the treatments' and controls' observed and unobserved baseline characteristics should be similar.

Another way of characterizing the experimental solution is that randomization solves the evaluation problem because it creates an instrumental variable that leads to variation in the receipt of training among training participants (Heckman 1996). The control group members are participants who were randomly denied services. Under these conditions, the impact of training can be estimated from the difference between the treatments' and controls' mean earnings.

Despite the advantage of simplicity, these social experiments have important limitations (Heckman 1992). Many of the complications that arise in experimental evaluations, such as sample attrition, also arise in nonexperimental studies (Kornfeld and Bloom 1996). However, some limitations are unique to social experiments. First, given the decentralized operation of many U.S. employment and training programs, the integrity of the experimental design depends on the cooperation of many local officials and administrators. In such a policy setting, the experience with the National JTPA Study is illustrative of how difficult it is to conduct a social experiment of an ongoing program (Doolittle and Traeger 1990; Hotz 1992). By contrast, the National Job Corps Study appears to have been more successful because this experiment evaluated a program that is under the control of federal authorities (Schochet, Burghardt, and Glazerman 2000, 2001).

A second problem that arises in social experiments is that members of the control group may obtain the same services through another community organization or sometimes even the same provider. This phenomenon, known as "control group substitution," has been substantial in many social experiments (Heckman, LaLonde, and Smith 1999). A related problem oc-

22. Randomization eliminates selection bias as a source of bias in the estimated impacts of training. However, the selection problem is usually not eliminated. Participants continue to self-select into training from the population. Random assignment creates a comparison group in which the selection from the population is the same as for the trainees.

curs with the treatment group members because participation is voluntary. In practice, many persons assigned to the treatment group do not show up to receive services or drop out after a short stay in the program.

Social experiments most often estimate the effect of receiving an offer to participate in training, "the intention to treat," and not the impact of training itself. When there are many no-shows among the treatments and there is control group substitution, the evaluation of the training effect requires the analysts to rely on one of the nonexperimental methods described above.[23] In practice, social experiments work better when they test the impact of services that are valued by participants and difficult to obtain elsewhere in the community. An example of such a study was the National Supported Work Demonstration (Hollister, Kemper, and Maynard 1984). Its high-cost services were not otherwise available. Consequently, this program had high rates of participation among the treatment group members and low levels of control group substitution.

A third limitation of social experiments arises because many questions about the impacts of employment and training programs are not easily evaluated with an experimental design. These questions include the effects of training on program participation, on the earnings of those who complete training, on hourly wages, or on the duration of subsequent employment spells (see Moffitt 1992; Ham and LaLonde 1996; Eberwein, Ham, and LaLonde 1997). In order to examine these questions analysts must rely on the same nonexperimental methods previously described. In addition, experimental evaluations are also infeasible when evaluators are asked to assess the impact of a program on individuals who participated in it in the past. The classic study by Ashenfelter (1974, 1978) of the 1964 MDTA cohort and the influential CETA studies of the 1976 cohort are examples of such studies (Barnow 1987). In instances such as these, researchers have no choice but to rely on nonexperimental methods.

8.4 Survey of Program Impacts

8.4.1 The Influence of Social Experiments

As explained above, an unusual characteristic of the empirical literature in this field compared with other areas in the social sciences is the frequent use of social experiments, mainly in the United States. Part of the reason for the proliferation of experimental evaluations in this field has been the skepticism expressed by both the academic and policy-making communities about the results of nonexperimental studies (see Ashenfelter and Card

23. When experimental data are available, a nonexperimental estimator of the training effect uses the variable indicating whether an individual was randomly assigned into the treatment group as an instrument (Imbens and Angrist 1994).

1985; Burtless and Orr 1986; Burtless 1995). Particularly important in heightening this skepticism were the results of six major evaluations of the 1976 CETA cohort (Barnow 1987). Although studies of different training cohorts have generated a considerable range of estimated impacts, these studies examined the same group of trainees and used essentially the same data. Yet the estimated impacts in these studies ranged from $1,210 to $1,350 for male participants and from $20 to $2,200 for female participants. Not surprisingly, one group of CETA evaluators concluded that

> [a]lthough these evaluations have all been based on the same data sets, they have produced an extremely wide range of estimated program impacts. In fact, depending on the particular study chosen, one could conclude that CETA programs were quite effective in improving the post-program earnings of participants or, alternatively, that CETA programs reduced the post-program earnings of participants relative to comparable nonparticipants. (Dickinson, Johnson, and West 1987, 452–53)

In the mid-1980s an advisory panel created by the DOL reviewed this and related evidence and recommended that policymakers rely more on experimental designs to evaluate their programs (Stromsdorfer et al. 1985).

To be sure, prior to this report, social experiments, such as the National Supported Work Demonstration, the Louisville WIN Laboratory, and the first Work-Welfare demonstrations, were already underway or completed. But this recommendation influenced the mix of experimental and nonexperimental studies. It motivated the DOL to fund the large experimental studies such as the JOBSTART Demonstration, the National JTPA Study, and the National Job Corps Study.

Social experiments have also been used to test alternative nonexperimental strategies to address the evaluation problem. A modest literature has accumulated that attempts to use alternative nonexperimental methods to replicate the results of experiments.[24] One approach has been to use the treatment group from the experimental study and then examine whether an analyst would have been able to replicate the experimental results using alternative comparisons groups and econometric methods. A second approach compares the control group to alternative comparison groups. This approach has the advantage of focusing analysts' attention on the selection problem.

These studies have generally concluded that nonexperimental methods have a difficult time replicating experimental results. But they do suggest that nonexperimental methods are likely to perform significantly better when comparisons group members are drawn from the same labor market

24. See, for example, LaLonde (1984, 1986); Fraker and Maynard (1987); Heckman, Hotz, and Dabos (1987); LaLonde and Maynard (1987); Heckman and Hotz (1989); Friedlander and Robbins (1995); Heckman et al. (1998); Dehejia and Wahba (1999); Smith and Todd (2003); Wilde and Hollister (2001); and Zhao (2001).

as the program participants. It also appears to be important that information on treatments' and controls' desired outcomes be drawn from the same instrument. This finding suggests the shortcomings of nonexperimental evaluations that begin with rich survey and baseline data on a group of program participants and then attempt afterward to construct a comparison group from administrative records.

The evidence from this literature on whether richer data or more sophisticated econometric methods are more important for overcoming the evaluation problem is yet to generate a consensus. The study by Heckman et al. (1998) demonstrates just how difficult and costly it is to collect enough covariates to solve the selection program, even when comparison group members are from the same labor market. Some studies suggest that less parametric methods, such as propensity score matching, perform better than more conventional econometric approaches (Dehejia and Wahba 1999). But other studies, such as the one by Smith and Todd (2000), which uses the same data, disagree. They conclude that in the absence of better data, these less parametric methods do not generate substantially improved nonexperimental impact estimates.

8.4.2 The Impact of Employment and Training Programs

The empirical literature on the impact of employment and training programs contains a relatively large number of both experimental and nonexperimental studies. However, experimental and nonexperimental evaluations often report estimates of different parameters. Because treatment no-shows and control group substitution can be substantial in social experiments, the impact parameter measured in experimental evaluations is often the impact of the intention to treat and not the effect of training on the trained. Nonexperimental studies usually report the impact of training on those who actually received the services. Estimates of the comparable parameter in most experimental studies would generally be larger than the estimate reported in these evaluations.

The point that experimental and nonexperimental studies often report different impact parameters is now widely recognized. Many recent experimental evaluations report estimates of both the intention-to-treat parameter and a training-on-trained parameter (Bloom et al. 1997; Schochet, Burghardt, and Glazerman 2000, 2001). The later estimator, known as the "Bloom estimator," is usually formed by simply dividing the "intention to treat" estimate by the fraction of treatments that enrolled and received program services (Bloom 1984; Heckman, Smith, and Taber 1998).

Experimental Evidence

Starting in the mid-1970s, some U.S. training evaluators began to use experimental designs to evaluate employment and training programs. Today a sizable body of evidence exists on the impact of relatively low-cost ser-

vices on economically disadvantaged persons, especially for adult single women. These studies have been surveyed elsewhere by many other authors (see, e.g., Friedlander and Gueron 1990; LaLonde 1995; and Heckman, LaLonde, and Smith 1999). Here we summarize some of the key findings using as examples evidence from a few programs.

The experimental evaluations indicate that a variety of employment and training services can raise the postprogram earnings of disadvantaged adult women but that such programs have mixed impacts on disadvantaged adult men and usually no effects on the earnings of youth. As shown by table 8.13, when adult women participate in these programs these earnings gains usually (a) are modest in size, (b) persist for several years, (c) arise from a variety of treatments, and (d) sometimes are achieved at remarkably little expense.[25] Further, although job search assistance is generally the most cost-effective treatment, more expensive services such as work experience and OJT often produce modestly larger earnings gains.

The experimental evidence indicates that very low-cost strategies, such as job search training, can significantly raise adult women's postprogram earnings. For example, the Arkansas WORK program tested the value of mandated job search assistance (and the threat of sanctions) by requiring a randomly selected group of AFDC applicants and recipients to participate in two weeks of group job search assistance followed by sixty days of individual job search.[26] As shown by table 8.13, the Arkansas WORK program was remarkably cost-effective. The cost of the job search assistance services amounted to $183 per participant. Yet even though participation was mandatory, AFDC applicants and recipients who participated in these services had earnings that were $287 higher in the first year following the baseline into the program than were controls' earnings. By the third year following their assignment those earnings gains had grown to $535. In addition, in results not shown in the table the program reduced welfare payments by about $250 in the first year and in the third year after the baseline. Therefore, not only did the program pay for itself, but it also led to (small) long-term earnings gains for AFDC participants.[27] Similar, if somewhat less striking, results were reported for job search assistance in the Louisville WIN Laboratory experiments and in other work-welfare demonstrations (Wolfhagen and Goldman 1983).

Experimental studies have also tested the effectiveness of job search

25. In recent work, Black et al. (2001) use data on unemployed workers in Kentucky to explore the question of whether the "threat of training is more effective than training itself."

26. See Friedlander et al. (1985). Women whose children were less than three years old and who volunteered for WORK were also randomly assigned into either the treatment or the control group.

27. The cost-benefit analysis indicates that taxpayers derived considerable benefit from the Arkansas WORK Program. The participants appear not to have benefited financially from the program. The earnings gains were "offset by reductions in AFDC and Medicaid payments" (see Friedlander et al. 1985, 21–22).

Table 8.13 **Impacts of Selected Experimental Evaluations of Employment and Training Services for Economically Disadvantaged Adult Women**

Impacts on Employment Rates and Earnings[a]					
Study	Costs ($)[b]	Last Quarter (%)[c]	Year 1/2 ($)	Year 3/4/5 ($)	Earnings (%)
		Job Search Assistance			
Arkansas WORK	244	6.2*	339*	487*	31
Louisville (WIN-1)	206	5.3*	425*	643*	18
Cook County, IL	231	1.2	12	n.a.	1
Louisville (WIN-2)	340	14.2*	679*	n.a.	43
San Diego—CWEP	891	–0.7	402*	n.a.	8
Food Stamp E & T	180	–2.5	–90	n.a.	–3
Minnesota—MFIP[d]	n.a.	14.5*	921*	n.a.	30
		Job Search Assistance and Work Experience			
West Virginia	388	–1.0	25	n.a.	4
Virginia ES	631	4.6*	106	387*	11
San Diego—CWEP	690	3.8*	1,120*	n.a.	23
Baltimore Options	1,407	0.4	231	764*	17
		Job Search Assistance and CT or OJT Services			
Maine TOP	2,972	1.1	433*	1,720*	36
San Diego SWIM	964	0.3	509*	180	15
New Jersey	1,165	n.a.	874*	n.a.	14
GAIN (JOBS):	3,757	5.9*	339*	740*	25
Alameda (Oakland)	6,036	6.0*	266	901*	37
Los Angeles	6,356	1.9	–5	178	9
Riverside	1,753	7.5*	1,173*	1,176*	40
San Diego	2,099	2.7*	445*	830*	23
MFSP San Jose (CETP	5,132	8.6*	1,470*	n.a.	25
MFSP other sites	4,525	1.2	400	n.a.	6
Florida PI (JOBS)	1,339	0.4	93	n.a.	3
		Work Experience and Training			
National Supported Work	8,614	7.1	657	1,062	43
AFDC Homemaker	8,371	n.a.	2,135*	n.a.	n.a.
NJS (JTPA)	1,028	n.a.	691*	441*	7
Recommended for CT	1,690	n.a.	359	n.a.	n.a.
Recommended for OJT	643	n.a.	747*	n.a.	n.a.

Source: LaLonde (1995) and Heckman, LaLonde, and Smith (1999).

Notes: All dollar figures are in 1997 dollars. N.a. indicates not available. CWEP = California Work Experience Program. MFIP = Minnesota Family Investment Program. E&T = Employment and Training. TOPS = Training Opportunities in the Private Sector Program. SWIM = Saturation Work and Initiative Model. GAIN = Greater Avenues for Independence Program. MFSP = Minority Family Single Parent Demonstration. PI = Project Independence. NJS = National JTPA Study.

[a]The earnings' impacts are annual (or annualized) difference between the treatments' and controls' mean earnings during the first or second year (Year 1/2) and during the third, fourth, or fifth year (Year 3/4/5).

[b]Average net costs are the incremental costs of providing services to the members of the treatment group.

[c]"Employment rate last quarter" refers to the difference between treatments' and controls' employment rates during the last quarter of the follow-up period for which data were available.

[d]Figures are for long-term welfare recipients only. Two other components of this program included threats of sanctions and financial incentives for welfare recipients to find work.

*Impact is statistically significant at the 10 percent level.

training coupled with mandated work experience. An interesting feature of these experiments was that welfare applicants and recipients were required to participate in employment and training services as a condition for receiving welfare benefits. This requirement enabled policymakers to evaluate the effect of these services on a wider segment of the disadvantaged population, instead of the narrower subset of program "volunteers." Another important feature of these experiments was that the design allowed policymakers to assess the separate effects of job search assistance and work experience on participants' earnings. In the San Diego studies, when women applied for AFDC, they were randomly assigned to one of three groups. Those assigned to the control group were not required to participate in work-welfare programs.[28] The second group was required to participate in job search assistance in order to receive cash benefits. Finally, the third group not only had to participate in job search assistance but, if they remained unemployed, also had to participate in WE.

As shown by table 8.13, the earnings of AFDC applicants who were assigned to either of the treatment groups in the San Diego-I experiment were $600 higher than those who were assigned to the control group. Although the cost-benefit calculations were less impressive than those for the Arkansas WORK program, they indicate, nonetheless, that the program benefited taxpayers (see Goldman, Friedlander, and Long 1986, xxv–xxxix and 165–84). Breaking down the result by program component, the studies indicated that job search assistance raised women's short-term earnings, whereas mandated WE raised women's long-term earnings.

Perhaps the most persuasive evidence that economically disadvantaged women can benefit from employment and training programs comes from the National Supported Work (NSW) Demonstration. The most significant finding from this study is that WE modestly raised long-term AFDC participants' earnings for at least seven years after the end of the program. In 1986, seven years after the NSW program had ended, the treatments' annual earnings exceeded the controls' earnings by about $1,000 (Couch 1992). Although these gains from the NSW program are among the most substantial and long-lasting documented, this program was also relatively expensive to operate. The social cost of NSW was approximately $7,000 per participant (Kemper, Long, and Thornton 1984). But if the program-induced earnings gains persisted throughout a woman's work life, the real social rate of return from training would be about 15 percent. This gain appears to constitute very productive social investment.

The National JTPA Study provides additional support that government training programs can raise the earnings of adult women. The thirty-month evaluation found that access to Title IIA programs raised adult women's earnings by approximately $700 during the twelve-month period

28. This group was required to participate in the preexisting WIN program. However, in practice this program placed few constraints on the controls' behavior.

prior to the thirty-month follow-up interview. This gain amounted to 10 percent of the control groups' earnings. The (incremental) social cost of JTPA services provided the trainees was less than $2,000. Therefore, should these earnings gains persist, the social rate of return from JTPA is likely to be substantial (Heckman, LaLonde, and Smith 1999). Indeed, a U.S. Government Accounting Office (GAO) study that used U.S. Social Security Administration earnings data reported that among adult women in the 1988 training cohort, the treatments had significantly higher earnings than the controls during four of the five postbaseline years (GAO 1996).

In contrast to what is known from social experiments about the effects of employment and training programs on economically disadvantaged women, much less is known from social experiments about their effects on adult males and youths. What is known indicates that although these programs sometimes raise males' earnings, they also sometimes have no effect. The NSW demonstration found that guaranteed work experience did raise the earnings of disadvantaged ex-criminal offenders and ex-drug addicts, but this impact was not statistically significant. The work-welfare demonstrations indicated that the job search and work experience services increase the postprogram earnings only for the minority of men who had a prior history of receiving welfare. The National JTPA Study (NJS) found that adult men experienced gains from JTPA services similar to their female counterparts. These earnings gains were approximately $650 per year or 7 percent of the controls' earnings (Orr et al. 1994, 82). A follow-up study using Social Security earnings data suggests that these impacts are smaller during the fifth year after the baseline (GAO 1996).

Findings for Youths and the National Job Corps Study

The findings from the few social experiments that study disadvantaged youths are less encouraging than the findings for disadvantaged adults. For example, more than seven years of follow-up data indicate that the prolonged WE provided to disadvantaged high school dropouts in the NSW demonstration had no effect on their subsequent earnings (Couch 1992). Similarly, the JOBSTART demonstration, which provided disadvantaged youths with services similar to those of Job Corps but without the residential living centers, did not generate significantly higher earnings for its participants during the four postprogram years followed in the evaluation (Cave and Doolittle 1991). Finally, the National JTPA Study finds no evidence that disadvantaged youths benefited from this program's relatively low-cost services (Orr et al. 1994).

The National Job Corps Study presents the most recent opportunity to use an experimental design to assess whether there are employment and training services that can improve the employment prospects of economically disadvantaged youths. As previously discussed, Job Corps is much more comprehensive and expensive than the services tested in previous so-

Table 8.14 **Impacts of Selected Experimental and Nonexperimental Studies of Job Corps on Post-Program Annual Earnings**

Authors	Program Cohort	Earnings Impact
O'Neill (1973)	1969	$504
Gay and Borus (1980)	1969–1972	–$273/$188[a]
Mallar et al. (1982)	1977	$2,032*/$1,016*[b]
JOBSTART	1986	–$260
National Job Corps Study	1995	
Year 1		–$2,093*/$1,212*[b]
Year 2		$1/–$188[b]
Year 3		$1,183*/$943*[b]
Year 4		$1,362*/$1,178*[b]
Residential		$1,235*/$1,218[b]
Nonresidential		$3,169*/–$1,076[b]
16–17-year-olds		$983*
18–19-year-olds		$323
20–24-year-olds		$2,871*

Sources: O'Neill (1973, 43); Cave and Doolittle (1991, 175); LaLonde (1995, 157); Schochet, Burghardt, and Glazerman (2001, pp.D.5–D.24, D.28).

Notes: Impacts are expressed in 1999 dollars. Annual earnings equal the estimated impact on weekly earnings times 52.

[a]Separate estimates for whites and minorities.

[b]Separate estimates for males and females; the female figures when evaluating Job Corps members assigned to residential and nonresidential centers in the National Job Corps Study are for females without children.

*Statistically significant at the 10 percent level.

cial experiments. Evidence that Job Corps is effective would underscore the importance of its comprehensive treatment for this population and, in light of the JOBSTART results, also suggest the importance of its residential model.

As shown by tables 8.14 and 8.15, previous studies of Job Corps report mixed results. Collectively the experimental and nonexperimental studies do not provide consistent evidence that Job Corps improves participants' employment prospects. Until now the most influential of these studies has been the Mathematica evaluation of the 1977 Job Corps cohort (Mallar 1978; Mallar et al. 1982; Long, Mallar, and Thornton 1981). As shown in the tables, this (nonexperimental) analysis of four years of postprogram earnings data indicates that Job Corps increased male participants' subsequent earnings by about $2,000 per year. Although this impact is large, because Job Corps is such an expensive program—the social costs net the value of in-program output amounted to about $12,000 per participant—they would have had to continue for more than two additional years to justify the costs of the program. However, if these four-year earnings impacts did persist throughout a participant's working life, Job Corps would prove to be a remarkably productive social investment.

Table 8.15 **National Job Corps Study, 1995 Cohort, Impacts by Ethnicity and Age**

	Ethnicity		
Age/Center Type	White	Black	Hispanic
16–17	$3,146*	$572	–$743
18–19	–$572	$744	$0
20–24	$5,872*	$3,432*	–$1,945
Hispanic center	–$343	$744	–$1,400

Sources: O'Neill (1973, 43); Cave and Doolittle (1991, 175); LaLonde (1995, 157); Schochet, Burghardt, and Glazerman (2001, pp. D.5–D.24, D.28).

Notes: Increase in participants' annual earnings during fourth year after the baseline; annual earnings equal estimated impact on weekly earnings times 52. Impacts are expressed in 1999 dollars.

*Statistically significant at the 10 percent level.

It is in this context that policymakers and analysts have awaited the results of the National Job Corps Study. As shown by table 8.15, the last year of earnings data collected during the forty-eight-month interview indicates that the opportunity to participate in Job Corps raised treatments' earnings by $1,258 or 12 percent. This impact held for both males and females and is comparable to, if not somewhat larger than, the impact of a year of formal schooling. Further, unlike the experience with JOBSTART, this impact is not clearly liked to differing effectiveness of the residential and nonresidential centers.

One important implication of the National Job Corps Study is that it demonstrates that comprehensive employment and training services can improve the earnings and employment history of disadvantaged youths and young adults. Another implication of the study is that if the earnings impacts persist throughout a participant's career, the program generates substantial net social benefits. Under these circumstances, the study indicates that society receives $2 for every $1 spent on Job Corps (McConnell and Glazerman 2001).

A closer look at the evaluation reveals considerable heterogeneity in the estimated impacts of Job Corps. The impacts for sixteen- to seventeen-year-old participants, who tend to come from the most economically disadvantaged backgrounds, are substantially larger than the average impact for eighteen- to nineteen-year-olds, but smaller than the impact for the twenty- to twenty-four-year-old participants. For the former group, the estimated impact is $983 per year.[29] Should the magnitude of this impact persist, and given the benefits associated with the reported reduction in the treatments' use of the criminal justice system, which are concentrated

29. Author's calculation based on Schochet, Burghardt, and Glazerman (2000, pp. D15–D23).

in this age group, the longer-term cost-benefit analysis for this especially hard-to-serve group may turn out to be very impressive.

The foregoing results for Job Corps youths do not provide as much evidence that the program works for disadvantaged youths as first appears. As shown by table 8.15, the positive impacts for youths under twenty are concentrated among sixteen- to seventeen-year-old white participants who did not enroll at centers with relatively large concentrations of Hispanics. For other Job Corps youths the results look more like other studies of youth participants in employment and training programs for which it has been difficult to find evidence that these programs work. This assessment is especially true for the Hispanic youths in Job Corps.

Indeed, the most striking results reported in the National Job Corps study indicate that the gains from the program are concentrated among white and black twenty- to twenty-four-year-olds. As shown by the table, the estimated impacts for these two groups are extremely large, even given the size of the investment. These results support policymakers' decision during the 1980s to expand eligibility for Job Corps to young adults.

Nonexperimental Evaluations

Despite the controversy sometimes associated with nonexperimental evaluations of employment and training programs, a pattern of results has emerged that is broadly consistent with and reinforces the findings from the experimental literature. Studies of different cohorts of adult women spanning a three-decade period find that government employment and training programs consistently raise their subsequent earnings. As shown by table 8.16, annual impacts of $1,000 or more are common. As a rule, when the earnings impacts are positive for both adult men and adult women, the impacts tend to be larger for women than for men. For example, Ashenfelter's (1978) study of the 1964 MDTA cohort found that training raised minority males' earnings by $675 and minority females' earnings by $2,000. These impacts are larger than usually reported, but they are not usual in this literature. The direct costs of MDTA's CT were nearly $10,000 (see Ashenfelter 1978, 56), but about one-half of these costs included a stipend paid to the trainee. If these estimated impacts persisted for the remainder of trainees' work lives, the real rate of return to training would be 7 percent per year for men, but a substantial 20 percent per year for women. These cost figures do not include forgone earnings, which are smaller for female participants, especially economically disadvantaged female participants. Consequently, although the social rates of return of CT training are smaller than indicated here, these estimates imply that the returns from training women are substantial.

As was discussed in section 8.2, the direct costs of training services usually amount to only a few thousand dollars per participant. Given the magnitude of the estimated impacts in nonexperimental studies, it is essential

Table 8.16 **Selected Impacts of Nonexperimental Evaluations of Employment and Training Programs under MDTA and CETA (increase in postprogram annual earnings)**

Study	Training Cohort	Men (whites/minorities; $)	Women (whites/minorities; $)
A. Nonexperimental Estimates for Economically Disadvantaged Adult Participants			
Ashenfelter (1978)	1964 MDTA	945/$655	2,191/$1,939
Kiefer (1979)	1969 MDTA	–2,103/–2,329	1,977/2,721
Gay and Borus (1980)	1969–72 MDTA	158/167	1,425/391
Cooley, McGuire and Prescott (1979)	1969–71 MDTA	1,448	2,115
Westat (1984)	1976 CETA	–12/264	1,020/831
Bassi (1983)	1976 CETA	63/–1,095	1,335/2,770
Dickinson, Johnson, and West (1986)	1976 CETA	–1,612	25
Geraci (1984)	1976 CETA	0	2,103
Bloom and McLaughlin (1982)	1976 CETA	378	1,914
Ashenfelter and Card (1985)	1976 CETA	1,700	2,304
Dickinson, Johnson, and West (1986)	1/76–6/76 CETA	–1,070	567
Westat (1984)	1977 CETA	1,171/1,536	1,247/1,776
Bassi et al. (1984)	Welfare 1977 CETA	1,473/–239	2,091/1,587
Bassi et al. (1984)	Nonwelfare 1977 CETA	176/566	1,712/1,851
B. Nonexperimental Estimates for Economically Disadvantaged Youth Participants			
Cooley, McGuire and Prescott (1979)	1969–71 MDTA	1,549	756
Gay and Borus (1980)	1969–72 Job Corps	–273/188	–1,614/–409
Mallar et al. (1982)	1977 Job Corps	2,443/2,710	1,016
Dickinson, Johnson, and West (1986)	1976 CETA	–1,398	466
Westat et al. (1984)	1976 CETA-WE	69 (males and females)	
Westat et al. (1987)	1977 CETA-WE	1,305 (males and females)	
Bassi et al. (1984)	1977 CETA	–1,272/–1,675	100,326

Sources: See Barnow (1987), LaLonde (1995), and Heckman, LaLonde, and Smith (1999, table 24, p. 2065).

Notes: All dollar figures are in 1999 dollars. MDTA refers to programs funded under the Manpower Development and Training Act, 1962; CETA refers to programs funded under the Comprehensive Employment and Training Act, 1973. The sets of estimates for each gender refer to the training effect for whites and minorities, respectively.

for cost-benefit analyses of these programs to know how long these impacts persist. Ashenfelter's study was one of the first, and for a long time one of the relatively few, that assessed the impact of government training services beyond a year or two after participants left the program. Although evidence on these programs' long-term effects is scarce, there is some evidence that these impacts last several years and do not dissipate at pronounced rates (McConnell and Glazerman 2001). Accordingly, as suggested by

some of the experimental studies, the internal rates of return to these programs may be very large. Indeed, it is not unreasonable to assert that when targeted toward adult women, the federal government's employment and training programs constitute a more productive social investment than a year of formal schooling.

The case in support of these programs is less strong when they are targeted toward adult males. As shown by table 8.16, the nonexperimental studies suggest that these programs produce smaller and less consistently positive impacts on males. But this is not always the case (Heckman, LaLonde, and Smith 1999). It is possible that the evaluation problem is more difficult to address for male than for female training participants (see Bassi 1984). This possibility might explain the greater uncertainty about the impacts of these programs on males.

8.5 Conclusions

During the last four decades policymakers have made modest investments in a variety of employment and training services designed to improve the skills and employment prospects of the economically disadvantaged and unemployed. Compared to other programs surveyed in this volume, expenditures on such services are relatively small. During FY 1998, the federal government spent about as much on JTPA as it did on programs like WIC, Head Start, child care and development block grants, and the school lunch program (Congressional Research Service 1999).

Government training programs under WIA, JTPA, and CETA differ from other programs covered in this volume, because (a) they are not necessarily limited to low-income people and (b) low-income persons are not necessarily entitled to receive these services. As shown above, many JTPA participants had previously held jobs in which their average wages were above the (national) average hourly earnings for production and nonsupervisory workers. Under WIA, program operators must give priority to low-income persons, especially those receiving public assistance, but they are not required to limit participation to the economically disadvantaged.

This ambiguity in the groups targeted to receive assistance from federal employment and training programs is not surprising, given the frequent policy shifts on this issue during the last forty years. During this period, policymakers have targeted their programs alternately toward the most economically disadvantaged and toward otherwise moderately skilled displaced workers. Current policy calls for devoting a relatively larger share of WIA resources to more employable adult participants. This emphasis constitutes a significant shift away from policy during the early years under JTPA.

These policy changes mirror those that have occurred under PRWORA. The policy changes embodied in this legislation adversely affect potential

long-term welfare recipients. But compared with AFDC as it operated after 1981, the current program is a more generous one for more employable welfare recipients who are prone to short spells on welfare. Because of expanded earnings disregards and child care subsidies, and the greater flexibility granted states to use resources to provide supportive social services, it is easier for these persons to work and still receive cash benefits. By contrast, the changes to the AFDC program in 1981 adversely affected this group by making it more difficult to work and collect benefits.

During the last four decades, policymakers have also changed their emphasis on services that provide vocational training and on those designed to help participants quickly find new jobs. In the early years, the emphasis was on vocational training in classroom settings. Starting in the mid-sixties, policymakers sought to provide more training on the job in private firms. By the 1970s the emphasis had moved to job placement as more resources were spent on providing job search skills, work experience, and public-sector employment. Under JTPA greater emphasis was placed on CT, especially as the program evolved. During these early years of WIA it seems likely that the emphasis will continue to be on CT with some attention given to better coordination between this service and other supportive social services.

During the last three decades, policymakers have sought to determine the effectiveness of their employment and training programs. Per dollar spent on these programs, it is likely that they have been as carefully evaluated as any social program in the United States—and probably in the world, for that matter. Although controversy persists about their impacts, several patterns have emerged from the many experimental and nonexperimental evaluations. First, these programs do not have a substantial effect on poverty rates. This finding occurs because the magnitudes of the investments are generally small. The investments are a lot less than a year of formal schooling. Consequently, it would be surprising, perhaps implausible, for them to have a dramatic impact on the living standards of their participants.

Despite the modest size of the investments in employment and training services, the impacts for economically disadvantaged adult women have been consistently positive. Although too little is known about the long-term impacts of these programs, what we do know suggests that, for this population at least, they may generate a substantial social rate of return. Indeed, depending on the assumptions about how long the impacts persist, a reasonable case could be made that on the margin it would be socially beneficial to raise taxes to finance more of these services for this particular population.

By contrast to the results for adult women, the results for economically disadvantaged youths are discouraging. With the possible exception of Job Corps, there is little evidence that these programs produce earnings gains

for youths. Consequently, policies such as the one that required local administrators during the early years of JTPA to spend 40 percent of their resources on youths were probably wasteful. In the absence of other proven low-cost services for this group, the substantial reduction in JTPA expenditures on youths that occurred starting in the mid-1990s appears to be a reasonable policy response to the empirical evidence. The evidence on the impacts of Job Corps is less clear, but a much stronger case can be made that this program, which provides high-cost comprehensive services, might constitute a very productive social investment.

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