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**PROGRAMS PROVIDING SUBSIDIZED EMPLOYMENT  
TO DISADVANTAGED WORKERS:  
A REVIEW OF THEIR EFFECTIVENESS**

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## EXECUTIVE SUMMARY

Title XV of the Food Security Act of 1985 mandated that each State implement employment and training (E&T) programs for food stamp participants, including job search assistance, training, workfare, and community work experience. However, regulations prohibited the States from using federal monies for programs providing subsidized employment. The rationale for this exclusion stems from the high cost of subsidized employment programs and from the lack of clear evidence concerning their effectiveness. During the last fifteen years, a large and diverse body of empirical research has accumulated on the issue of the effectiveness of these programs, yet no consensus has been reached. The purpose of this report is to evaluate and summarize this evidence.

Four different forms of subsidized employment are examined in this report: wage subsidies paid to employers as an incentive to hire disadvantaged workers for existing private sector jobs; subsidized on-the-job training, usually in the private sector; public sector employment; and supported work, which consists of the creation of protected working environments where participants can learn basic work habits. These employment subsidies are in most cases implemented as separate components of employment and training programs that include other forms of intervention, such as classroom training and job search assistance.

Given the diversity of these programs, it is not surprising that the literature contains very dissimilar, and often contradictory, research findings about their effectiveness. Contributing to this variability of results are the evaluation techniques used, many of which do not meet today's standards for rigorous program evaluation. The evaluations of the effectiveness of most of these programs were conducted during the late 1970s to early 1980s. The main findings of these evaluations are discussed below.

### Wage Subsidies

Wage subsidies--payments made to private sector employers to reduce the effective wage the employer must pay an employee--can be intended to increase overall employment, or only the employment of specific groups of individuals. This report focuses on the latter type of wage subsidy, called targeted wage subsidies. The available evidence on the effectiveness of targeted wage subsidies comes from studies of the Targeted Job Tax Credit (TJTC) program, and to a more limited extent, from studies of the Tax Credit component of the Work Incentives (WIN) program. The following are the major findings of these studies.

When wage subsidies paid to private employers are administered in the form of vouchers, the available experimental and non-experimental evidence clearly indicates that they do not significantly improve employment opportunities for those eligible for the subsidy. Some of the studies reviewed even find a negative effect of wage subsidy vouchers on the job placement rate of eligible workers. For example, persons instructed to inform prospective employers of their eligibility for TJTC or WIN subsidies were less likely to find employment than comparable persons who did not receive such instruction. The reason for this negative effect may be that the targeting of the subsidy to disadvantaged individuals, in particular welfare recipients, gives employers the opportunity to screen out individuals they might perceive as less desirable employees.

Moreover, the experience of TJTC suggests that there are extensive barriers and negative incentives to employer participation in wage subsidy programs. These include: high administrative costs associated with participation, necessity to deal with government agencies, lack of knowledge of the program, and lack of incentives for local managers to participate. Given the costs of participating, most employers do not believe the financial gain from the subsidy compensates them adequately for the lower productivity of the workers. Participation in the TJTC program has historically been concentrated in very few industries (such as retail and fast-food outlets), and among a few large employers in these industries.

Even among participating employers, TJTC does not seem to be cost-effective. From a survey of employers, we know that in a large proportion of the cases the screening for TJTC eligibility takes place after the hiring decision has been made. Therefore many of the employers who are taking advantage of TJTC may be experiencing a windfall, since they receive a subsidy for workers they would have hired anyway.

### Subsidized On-the-Job Training

When the purpose of the employment subsidy is to compensate the employer for on-the-job training provided to the worker, rather than for the worker's lower productivity, the payment made to the employer can more appropriately be defined as a "training subsidy." The existing evidence on the effects of subsidized training comes from evaluations of WIN and of the programs authorized under the Comprehensive Employment Training Act (CETA).

The only systematic, large-scale evaluation of the WIN program concludes that participation in the on-the-job training (OJT) component of WIN substantially increases the post-program earnings of participants above the earnings of similar individuals who do not participate in those programs or who participate in other components, such as classroom training or job placement assistance. The impact is found to be larger for men than for women, to increase with the length of the training, and to be larger for participants with no prior work experience.

Several methodological shortcomings undermine the credibility of the findings of this study. The evaluation techniques used in this study fail to take account of the fact that participation is not a random event, rather it is a decision involving the individual and the program administrator. Program participants might differ from non-participants along some unmeasured characteristics (such as motivation, ability, acquired work habits) which can also affect the outcomes of the training (for example, placement rate or post-program earnings). This is known as the selection bias problem. The evaluation techniques used also fail to correct for the possibility that more job-ready participants are selectively assigned to the more employment-intensive services, such as OJT, a phenomenon usually referred to as "creaming". Failure to correct for this problem leads to another form of bias, known as assignment bias.

Similar methodological problems affect the studies that evaluate the impact of CETA

The federal program that in 1983 replaced CETA, the Job Training Partnership Act (JTPA) also contains an on-the-job training component. Recognizing the shortcomings of the evaluations of CETA, the U.S. Department of Labor has commissioned an evaluation of JTPA based on random assignment. This type of evaluation has the potential for correcting for the biases mentioned above. Unfortunately, the results of this evaluation are not available yet.

### Public Service Employment

Direct job creation by the public sector to reduce cyclical unemployment has a long tradition as an employment policy of the U.S. government. During the 1970s, this type of labor market intervention was widely used with the additional goal of providing disadvantaged individuals with paid employment not otherwise available to them. Both the CETA and the WIN programs had public service employment (PSE) components, and the available evidence on the effectiveness of PSE comes from evaluations of those programs.

These evaluations indicate that the earnings impact of PSE is substantially larger than any other form of employment and training, including on-the-job training in the private sector. However, assignment bias can be especially serious in the case of PSE, because this type of program was used to place disadvantaged individuals as well as unemployed workers independently of their economic conditions. Therefore the average participant assigned to a PSE position was less disadvantaged than the average participant in other employment programs, and therefore more likely to benefit from the training and to have higher post-program earnings. Moreover, PSE jobs were of longer duration than other types of training, and likely to be transformed into permanent positions with the same public employer.

It is worth noticing that, despite the apparent large impact of PSE on post-program earnings, the federal employment policy of the 1980s has completely abandoned PSE as an option to train disadvantaged workers.

### Supported Work

The National Supported Work Demonstration, a large demonstration project conducted during the 1970s, provided participants with paid work experience of about one year, under conditions of gradually increasing demands, close supervision, and work in association with a group of peers. The target groups of the demonstrations included groups of hard-to-employ individuals, such as ex-offenders, ex-drug addicts, high school drop-outs, and long-term AFDC recipients. In our review we focus on AFDC recipients.

The evaluation of the demonstration shows that placing long-term AFDC recipients in a protected working environment for a period of 12 to 18 months significantly improves their subsequent earnings performance, above that of similar individuals who do not undergo the training. The experimental design of the demonstration makes its results more credible than those obtained in other evaluation, since it reduces, if not eliminates, the problem of selective assignment of program participants to the training. However, it is important to remember that Supported Work, while the only example of subsidized employment showing a convincing positive impact on earnings, is also perhaps the most expensive type of intervention among those considered in this review.

## I. INTRODUCTION

Title XV of the Food Security Act of 1985 (PL 98-198) mandated that each State implement employment and training (E&T) programs for food stamp participants by April 1987. The purpose of these E&T programs is to help food stamp participants become self-sufficient by providing services designed to improve their employment prospects. Although flexibility is given to the States in designing their own programs, drawing on a variety of possible components, including job search assistance programs, workfare, and work experience, regulations prohibit States from using federal monies to implement programs involving forms of subsidized employment, that is, employment for which the government pays the entire or part of the compensation to the worker. Thus, these regulations rule out the use of programs such as wage subsidies paid to private employers, subsidized on-the-job training, and public service employment. The rationale for this exclusion is based principally on the very high cost of such programs, especially when compared to other E&T programs. Moreover, there is a great deal of uncertainty about their effectiveness; a large and diverse body of evidence on this issue has accumulated during the last fifteen years, without reaching a consensus. The purpose of this report is to reevaluate and summarize this evidence.

The remainder of the report is organized into four sections. Section II provides background information on employment subsidy programs. We discuss alternative forms and objectives of these programs, and then focus on those that have been implemented in the United States. In section III we discuss the methodological problems involved in evaluating the effectiveness of the different types of employment subsidies, and in Section IV we review the existing evidence on this issue. Concluding remarks are presented in Section V.

## II. BACKGROUND INFORMATION ON EMPLOYMENT SUBSIDY PROGRAMS

Government intervention to create jobs and to stimulate private sector employment has appeared historically under different forms and with different objectives. The primary distinction, particularly relevant for the purpose of this review, is between interventions aimed at reducing cyclical unemployment (caused by economy-wide economic downturns) and those aimed at reducing structural unemployment, that is, unemployment or underemployment that affects particular groups of workers and tends to persist through all phases of the business cycle. This review is limited to the second type of intervention. In particular, we examine the effectiveness of government programs that create jobs or subsidize private sector jobs in order to increase employment opportunities for disadvantaged workers—individuals who, because of lack of skills or other barriers to employment, experience difficulties in achieving economic self-sufficiency through market work, and therefore have greater tendency to rely on government income maintenance programs.

### A. ALTERNATIVE FORMS AND OBJECTIVES OF EMPLOYMENT SUBSIDIES

Underlying this type of programs is the idea that obtaining employment, even if subsidized, is an effective way to acquire the skills necessary to improve long term employability. Other employment and training programs pursue the same objectives by providing program participants with general skill-enhancing training, or by assisting them in their search for unsubsidized employment. The subsidized jobs needed to implement this type of intervention might be created for the specific purpose, or they might be existing jobs in the public or private sectors. In the latter case the intervention consists of paying part of the worker's compensation in order to induce private employers to increase their hiring of workers in the program's target group. In

all cases, this type of program involves the direct or indirect payment of a stipend to program participants.

A precise categorization of programs providing subsidized employment is made difficult by the great variety of forms of existing programs; these differ by the type and degree of targeting, by the extent of the subsidy, by the different mix of private/public sector involvement, and, ultimately, by their effectiveness in improving long term employment prospects for members of the target group. We identified three major types of programs: wage subsidies intended to subsidize jobs in the private sector, programs providing subsidized on-the-job training, and direct job creation on the part of government agencies.

#### 1. Wage subsidies

Wage subsidies are payments made to private sector employers to reduce the effective wage the employer must pay an employee. The payment takes the form of a direct cash rebate or, most often, a tax credit. The economic rationale for wage subsidies is extremely simple--by reducing the cost of hiring certain types of workers, employers are induced to substitute labor for capital, and subsidized workers for unsubsidized workers.

As mentioned above, this review concentrates on labor market interventions targeted to particular groups of workers, rather than to all the unemployed. This differentiation is particularly relevant for wage subsidies, since almost every developed country, including the United States, has in the last two decades implemented wage subsidy programs designed to encourage firms to expand their overall level of employment, as a tool to fight cyclical unemployment<sup>1</sup> (Kopits, 1978). We define these programs as non-targeted wage subsidies. For

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<sup>1</sup>The economic literature on the use of wage subsidies to fight unemployment dates back at least half a century. One of the earliest discussions is in Kaldor (1936).

example, the United States implemented the New Jobs Tax Credit (NJTC), enacted in 1977 and phased out in 1978.<sup>2</sup> For the purpose of this review, we are interested only in targeted wage subsidies, designed to induce the employers to increase the hiring of particular groups of individuals. Targeted wage subsidies are not designed to necessarily reduce the general level of unemployment, rather they are expected to redistribute the unemployment burden more equally between disadvantaged and non-disadvantaged members of society.

While all targeted wage subsidy programs share this objective, the specific way the program is implemented (such as the amount of the subsidy, the method of payment, the definition of the target group) has an important influence on its impact, and in particular, on the way employers respond to the availability of the subsidy. One important dimension in distinguishing among alternative implementations of wage subsidy programs is the way individuals eligible for the subsidy are matched with employers. One form is the voucher-type wage subsidy, where the intervention is limited to providing the worker with a voucher that certifies his or her eligibility for a subsidy. The worker is "left alone" in finding employers willing to take advantage of the subsidy. The alternative is a more "structured" approach, where the agency administering the program has an active role in locating employers and in referring eligible workers to them.

## 2. Subsidized Training

When the goal of the wage subsidy is to compensate the employer for the on-the-job training provided to workers, rather than simply to compensate for their low productivity, the payment made to the employer can be more appropriately defined as a "training subsidy". In some instances the worker might be expected to remain with the same employer after the subsidy

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<sup>2</sup>Under NJTC, firms could claim a tax credit for increasing employment by at least 2 percent over employment in the base year. A review of the effects of the NJTC is contained in Perloff and Watcher (1979).

expires. Although training subsidies can be administered in the form of wage vouchers, their very nature requires more intervention on the part of program administrators, in particular more control on the type of job to which the trainee is assigned.

Another form of subsidized training widely used is subsidized work experience, usually in the form of short-term work assignment with employers other than private for-profit firms. Work experience usually is provided to individuals with little or no previous work experience, and focuses more heavily on providing basic work habits and attitudes rather than teaching specific job skills.

### 3. Direct Job Creation

Direct job creation by the public sector to reduce unemployment has a long tradition in the employment policy of the U.S. government. The specific objectives of such efforts have shifted frequently, largely in response to changing economic conditions. The goal of providing disadvantaged individuals with paid employment not otherwise available to them only recently been an important motivation in job creation efforts, partially substituting other more traditional objectives, such as providing a demand stimulus to the economy during recessions and helping local communities deliver new or improved public services. In the last decade, the federal government has abandoned an active role in this type of employment policy. However, a brief historical account of direct job creation efforts is useful in order to place the evaluations of this type of intervention in a proper context.

The activities sponsored by the Work Progress Administration (WPA) during the 1930s stand out as the most important historical precedent. The objective of this program was eminently countercyclical; at its peak, the WPA employed more than three million workers—one third of all the unemployed. In the postwar period, it was not until 1971 that the federal

government again became involved in a large scale public job creation program, with the Emergency Employment Act. Conceived principally as a countercyclical program in response to the 1970-1971 recession, it served other purposes as well, including providing jobs for specific population segments, such as welfare recipients and Vietnam veterans. In 1973, Congress passed the Comprehensive Employment and Training Act (CETA), which included a public service employment (PSE) program, with an emphasis on structural, rather than countercyclical, objectives. Various categories of disadvantaged individuals were included in the list of workers eligible for PSE. Other E&T programs more specifically targeted to the welfare population, such as the Work Incentive (WIN) program, also included a PSE component.

During the 1970s, the federal government embarked also in other job creation efforts that did not consist of placing disadvantaged individuals in public sector jobs. Most notable are those efforts targeted to extremely hard-to-employ individuals, such as ex-offenders, ex-addicts, long-term welfare recipients, and persons with physical and mental impairments. These efforts consisted of creating a protected working environment, in which greater attention was paid to skill development under conditions of gradually increasing demands, close supervision, and work in association with a crew of peers.

## B. A REVIEW OF FEDERAL PROGRAMS PROVIDING SUBSIDIZED EMPLOYMENT

In this section we review five major programs that provide (or provided) some form of subsidized employment to disadvantaged workers and have been implemented in the United States: the Targeted Jobs Tax Credit (TJTC); the programs authorized under the Comprehensive Employment Training Act (CETA) and the Job Training Partnership Act (JTPA); the Work Incentives (WIN) program; the National Supported Work Demonstration.

## 1. The Targeted Jobs Tax Credit

The largest wage subsidy program implemented in the United States is the Targeted Jobs Tax Credit (TJTC), authorized by the Revenue Act of 1978. The original TJTC program offered employers outside the personal service sector a tax credit for hiring workers from certain target groups: economically disadvantaged youths age 18 to 24; youths age 16 to 18 participating in a cooperative education program; economically disadvantaged Vietnam veterans under age 35; economically disadvantaged ex-offenders; handicapped persons receiving vocational rehabilitation; General Assistance recipients; and SSI recipients over the age of 65.

The Act permitted employers who hired a member of one of the target groups to claim a tax credit of 50 percent of the first \$6,000 of wages paid to the employee during the first year of employment, and 25 percent during the second year. The main implication of providing the subsidy in the form of a tax credit instead of a cash rebate was that only firms with positive tax liabilities could take advantage of the program.

The TJTC has been changed several times since its inception in 1978. The Economic Recovery Tax Act of 1981 eliminated eligibility for cooperative education program participants, as well as the possibility for employers to request certification of the worker's eligibility for the subsidy after the worker had been hired. These changes were in response to a widely held criticism of TJTC up to that point, that is, that TJTC was subsidizing employers for workers they would have hired in the absence of the subsidy. We will show in the next section that this is a crucial issue in the evaluation of wage subsidy programs in general. In 1981 the WIN Tax Credit program was merged with TJTC, adding AFDC recipients to the list of TJTC target groups. The Tax Equity and Fiscal Responsibility Act of 1982 added another target group--economically disadvantaged 16 and 17 year old youths working during the summer. In 1985 Congress

reauthorized TJTC, but changed the amount of the tax credit to 40 percent of the first \$6,000 during the first year and eliminated the credit for the second year.

Three basic mechanisms are used in matching TJTC eligibles and employers. Under the first mechanism, individuals who are determined to meet the eligibility requirements by the sponsoring agency (usually the State Employment Security Agency) are provided with a voucher certifying their eligibility. The applicant presents the voucher to the employer, who, after deciding to hire the applicant, contacts the sponsoring agency in order to complete the necessary forms needed to establish the tax credit. The second mechanism is used when an applicant does not have a voucher but seems to be eligible. The employer is permitted to request a certification of eligibility from the sponsoring agency for such applicant. Requests must be made before the individual begins to work. The third mechanism is for employers to request referrals from State employment agencies who have access to lists of TJTC eligibles.

The TJTC program started slowly, but by 1981 had grown to 400,000 workers. The tightening of eligibility requirements in 1981 and the economic recession reduced the caseload to 200,000 in 1982. The program started growing again in 1983, and rose to 620,000 workers in fiscal year 1985 (Bishop, 1990). The primary population participating in TJTC has been economically disadvantaged 18-24 year old youths, who represented 65 percent of the total caseload in 1985. AFDC and General Assistance recipients represented the second largest group, comprising 20 percent (26,000 GA recipients and 99,000 AFDC recipients) of the total caseload. Only a small fraction of the eligible population appears to be served by the program. The Congressional Budget Office estimated that in 1983 TJTC was helping less than 10 percent of the pool of young people eligible for the program (CBO, 1984). The total TJTC caseload of 620,000

in 1985 represented 0.7 percent of payroll employment and 8 percent of the average stock of unemployed workers.

## 2. The CETA Programs

The Comprehensive Employment and Training Act (CETA) of 1973 introduced or reauthorized a variety of employment and training programs, targeted to individuals who were unemployed, or underemployed, or economically disadvantaged. The CETA legislation also shifted responsibility for program administration from the federal government to State and local governments, which were required to establish local agencies, called "prime sponsors", to administer the programs. The characteristics of CETA were significantly modified throughout the 1970s. However, the program generally provided a mix of classroom training, work experience (WE), on-the-job training (OJT), and public-sector employment (PSE)<sup>3</sup>. Eligibility requirements also changed through the years. While loosely targeted during the first five years of operation, the 1978 reauthorization of CETA restricted eligibility for most services to individuals who were both economically disadvantaged and had significant histories of unemployment. In 1982, CETA was replaced by the Job Training Partnership Act (JTPA), which is in effect today.

In this report, we focus on the components of CETA providing subsidized employment, namely the PSE, OJT, and WE components. As described in the preceding section, the PSE component of CETA was used both with countercyclical and structural objectives, particularly during the recession of 1975. In 1976, an amendment to CETA required prime sponsors to create new PSE positions in projects of no more than 12 months duration, rather than in ongoing activities. Projects were defined as activities that produced a specific product, had a definitive

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<sup>3</sup>Title IV of CETA reauthorized the Job Corps, a primarily residential program of education, skill training, and counseling for economically disadvantaged youth. An evaluation of the Job Corps is beyond the scope of this review.

time frame, and were not activities that would have been done in the absence of PSE funds. The time limit on PSE projects was meant to prevent substitution and displacement—that is, substitution of PSE funds for local money and displacement of workers on the regular payroll by subsidized PSE workers. The 1978 reauthorization of CETA stressed the need to increase training opportunities to enhance the employability of PSE participants. Requirements were imposed on the minimal proportion of PSE funds to be allocated to training. The 1976 and 1978 amendments also imposed ceilings on costs for PSE programs, establishing a national average PSE wage of \$7,200, with a maximum of \$10,000. During the second half of the 1970s, the PSE component represented the majority of CETA expenditures. In the peak year 1978, total outlays on PSE were \$5.7 billion, serving 1.2 million individuals, while total expenditure on all remaining CETA components was \$2.1 billion, serving 1.3 million individuals (GAO, 1982).

The CETA OJT component subsidized participating employers for up to 50 percent of the wage of the worker for the first 6 months of employment as compensation for the training given by the employer to the worker. The subsidized workers were expected to remain with the employer after the subsidy expired. Workers and firms were matched through referrals from the local prime sponsors. A contract was first established between the prime sponsor and the employer, then selected CETA participants were referred to the employer. If hired, the worker was treated as a regular employee, and the employer was reimbursed for the cost of the training within the limits indicated above. Anecdotal evidence suggests that the more job-ready among the CETA participants were typically assigned to on-the-job training (CBO-NCEP, 1982), to accommodate the employers' preferences for more experienced workers. In addition, since OJT participants were largely assigned to craft and operative occupations (such as welders and machine operators), OJT services might be expected to have more positive results than other types of CETA services, simply as a function of the higher wages typically paid for this type of jobs

(GAO, 1982). Only a minority of CETA participants were involved in OJT, 13 percent in 1980, or 97,000 persons (while 47 percent undertook classroom training). CETA-OJT provided an average of 19 weeks of training, costing an average of \$2,100 per participant served in 1980 (classroom training cost an average of \$2,700 per participant).

The CETA work experience (WE) component also provided subsidized employment, usually in the form of short-term work assignment with employers other than private for-profit employers. Work experience also differs from OJT because it focuses more heavily on providing subsidized employment to instill basic work habits and attitudes rather than teaching specific job skills. WE jobs are in setting with varying degrees of supervision, complementary training, and supportive services. Forty percent of all non-PSE CETA participants were enrolled in WE in 1980. They received, on average, 20 weeks of experience at a cost of \$2,200 per person in 1980.

### 3. The JTPA Programs

The Job Training Partnership Act (JTPA) replaced the CETA in 1983. Programs authorized under JTPA are similar to CETA's, with the major differences being that JTPA further decentralized the administrative structure of CETA, reduced the number of types of services (in particular, it eliminated public service employment), and increased the targeting of service delivery to the more economically disadvantaged. Under JTPA, an individual is considered economically disadvantaged if he or she receives cash welfare payments or food stamps<sup>4</sup> or is a member of a recipient unit, or his/her total income for the previous six months does not exceed the OMB poverty level. The non-economically disadvantaged participants must have encountered

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<sup>4</sup>Approximately 34 percent of JTPA Title II-A enrollees were Food Stamp Program recipients in 1987.

homemakers, school dropouts, teenage parents, and the handicapped.

JTPA emphasizes private sector involvement and cost containment. While public service employment is prohibited, work experience is permitted, but on a limited basis only. The "backbone" of JTPA is classroom training, to which 36 percent of participants were initially assigned during program year 1987 (U.S. Department of Labor, 1988). On-the-job training was next with 22 percent, while job search assistance and work experience received 19 and 7 percent of the initial assignments. Public assistance recipients were more likely than the average participant to be assigned to classroom training (43 percent) and less likely to on-the-job training (18 percent) (U.S. Department of Labor, 1988). Cost figures for JTPA are not available broken down by type of intervention: the average overall cost per JTPA participant in program year 1987 was \$1629.

A separate component of WIN was a tax credit-wage subsidy program. Employers hiring AFDC recipients were eligible for a tax credit of 50 percent of the first \$6,000 of wages paid to the employee during the first year of employment, and 25 percent during the second year. In 1981 the WIN-TC program was merged with the TJTC program. During its 10 years of existence, the WIN-TC program was characterized by a very low take-up rate. Between 1972 and 1975, an average of only 7,000 tax returns claimed WIN tax credits. This number increased to roughly 15,000 between 1977 and 1980, which represented 0.4 percent of all employers (Bishop, 1990).

##### 5. The National Supported Work Demonstration

The National Supported Work demonstration represented one of the largest social experiments ever conducted in the United States. It involved, during a four-year period (1975-78), over 10,000 men and women with severe employment problems, in 15 different sites across the country (Hollister et al., 1984). The program provided participants with paid work experience of about a year, under conditions of gradually increasing demands, close supervision, and work in association with a crew of peers. Embedded in the demonstration was an experimental design which generated randomly chosen treatment and control groups, to insure that the net impact estimates would represent the true effect of the program. The four hard-to-employ groups on which the program concentrated were: long-term female AFDC recipients; ex-addicts; ex-offenders; and young high school dropouts, often with criminal records. In this report we only review the evaluation results pertaining to the AFDC sample, which significantly overlaps with the population served by the Food Stamp E&T programs. To be eligible for the program, an AFDC recipient had to be female, on AFDC for 30 of the last 36 months, and with no children under 6. She also had to meet the demonstration-wide requirements of being currently

unemployed and with only limited recent work experience. AFDC recipients meeting these criteria constituted about 15 percent of the total AFDC population (Hollister et al., 1984).

Supported workers were employed by local non-profit agencies, most of which were established with the specific purpose of operating the program. These agencies were responsible for developing and operating worksites, supplying equipment, hiring supervisors, and eventually assisting supported workers in finding nonsubsidized jobs when they left the program. Participants were paid a wage that ranged, depending on local labor market conditions, from the federal minimum wage of \$2.30 to \$3.10. The maximum duration on the program was fixed--normally 12 months, but as high as 18 months at some sites for research purposes. Over one-half of work time was spent in service activities, ranging from building maintenance and security to day care; one-quarter of the time was devoted to construction work; and almost 10 percent was in manufacturing. The total site operations expenditures during the 4 years was \$66 million, of which only 16 percent were covered from sale of goods and services. The average expenditure per participant covered by public funds was therefore in the order of \$5,500.

### III. ISSUES IN THE EVALUATION OF EMPLOYMENT SUBSIDY PROGRAMS

By and large, the methodological issues involved in the evaluation of programs providing subsidized employment are similar to those found in all evaluations of social programs, and, in particular, of training programs. In this Section, we briefly review these general issues, and then we focus on some that are more directly related to the wage subsidy programs.

#### A. ESTIMATING THE IMPACT OF TRAINING ON POST-PROGRAM OUTCOMES

To establish the effectiveness of a program one needs to measure its net impact on the outcome of interest. Employment subsidy programs, like all other E&T programs, have the objective of providing individuals they serve with increased skills, improved work habits and better credentials in order to increase their future employability. When the target group is composed of welfare recipients, a complementary goal is that of reducing their reliance on public assistance, both for the duration of the program, and after. The first methodological issue is the choice of an appropriate measure for the outcome of interest. An increase in "employability" can be measured in a number of ways. The most commonly used measure is the increase in post-program earnings, since earnings incorporate all the important dimensions of one's performance in the labor market, such as weeks worked, weekly hours of work, and hourly wages. However, often these indicators of labor market performance are examined separately.

The second methodological issue, one that has received a great deal of attention<sup>5</sup>, is how to obtain an unbiased measure of program impact. To do so, one needs a measure of the "counterfactual", that is, the earnings (hours of work, hourly wage, welfare receipt) program

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<sup>5</sup>An extensive econometric literature has developed to deal with this problem. For a general discussion, see Moffitt (1987).

participants would have received had they not participated in the training. Two different approaches have been used to determine this measure. The earnings of participants can be compared to those of individuals who are "similar" to the participants along important (but measurable) dimensions. These are referred to as comparison group techniques. Comparison group techniques attempt to control for the systematic differences between program participants and non-participants by matching the sample of participants with a sample of individuals having the same characteristics, drawn from an existing household survey or chosen among the individuals eligible for the program but not participating. However, if the two samples differ along some unmeasured characteristic (such as "motivation"), the comparison between the earnings of the two groups might not show the true impact of the training. These comparisons would be affected by what is usually defined as "selection bias".

The alternative approach is to conduct randomized experiments. Randomly assigning individuals eligible for the program to the training and non-training groups guarantees that the two samples are similar along unmeasured dimensions (apart from differences due to sampling error). However, several difficulties often make the use of randomized experiments impractical; in particular, they are very costly and they are difficult to use in the evaluation of on-going programs and entitlement programs. In addition, random assignment produces unbiased impact estimates only if all the individuals assigned to the treatment group actually receive training. If participation within the treatment group is again the result of non-random selection, the same biases might arise as in the case of selective program participation.

An additional set of methodological problems emerge for the determination of the differential impact of various components of the same program. For example, CETA provided its clients with a wide array of programs, some of which involved subsidized employment and some which did not. In CETA, as in similar multi-component programs, participants tend to be

assigned to service components based on counselors' assessments of individuals' talents and on slot constraints of the program. Thus selection is made on the basis of characteristics of the individual that cannot be controlled for during the evaluation, because they are not easily observable. The estimates of the differential impacts might simply reflect the differences between participants assigned to the various components, rather than a greater effectiveness of some type of intervention. These estimates are affected by what is referred to as "assignment bias".

## B. ISSUES SPECIFIC TO WAGE SUBSIDY PROGRAMS

The issues discussed so far are relevant for the evaluation of all E&T programs. However, a subset of employment subsidy programs, in particular wage subsidies and training subsidies paid to private employers, raise a separate set of issues. Wage subsidy programs represent a very peculiar mechanism to provide eligibles with subsidized employment. While all the other E&T programs are supply-side type interventions, that is, they induce the individuals to undergo some kind of "treatment", wage subsidies are demand-side interventions, in that they attempt to affect the behavior of employers, inducing them to hire more disadvantaged workers than they would otherwise. The success of a wage subsidy program crucially depends on how private employers change their hiring and training practices in response to the availability of the subsidy. This peculiarity of wage subsidy programs has prompted a somewhat different approach to evaluating their short-term effectiveness. In evaluating other E&T programs, the program participant is always used as the unit of observation. In evaluating the effect of wage subsidies programs, in particular TJTC, most of the attention has been devoted to determining whether and how the availability of the subsidy has changed employers' hiring and training practices.

Making this determination is difficult. Indicators such as the percentage of employers hiring eligible applicants, or the percentage of eligible workers hired in subsidized jobs, do not

necessarily provide any reliable information on the short-run effectiveness of the program. What has to be shown is that the employers who take advantage of the program are hiring more eligible workers than they would have without the program. The main potential shortcoming of any wage subsidy program is that employers hire only eligible workers they would have hired even without the subsidy. When a subsidy is claimed for these workers, the employers get a windfall equal to the amount of the subsidy.

Another important issue in the assessment of employers' responses to wage subsidies is whether they use eligibility for the subsidy as a signal of lower productivity, a signal that would not be available in absence of the program. This "negative signalling" effect is particularly likely when the target group is composed of welfare recipients. In this case, eligibility for the subsidy reveals a stigmatizing circumstance which is not normally known to the employer, nor reported as part of a job application (unlike other more visible circumstances, such as a physical handicap). When this type of response prevails among employers, the job placement rate of eligible workers can actually be lower than in the absence of the program. In the case of wage subsidies, better targeting on the part of the program administrators, which is usually considered a positive feature of welfare and training programs, could actually hurt the target group if it provides employers with a more clear signal of lower productivity.

#### IV. EMPIRICAL EVIDENCE ON THE EFFECTS OF EMPLOYMENT SUBSIDIES

Following the discussion of the previous section, we distinguish three types of evaluations of employment subsidy programs. First, we review the available experimental and non-experimental evidence of their impact on post-program outcomes such as earnings and hours of work. Second, we concentrate on issues more specifically related to wage vouchers; in particular, we review the evidence of the effect of the latter on short-term employment. Third, we examine the evidence on employers' attitudes toward TJTC wage subsidies.

##### A. IMPACT OF EMPLOYMENT SUBSIDIES ON POST-PROGRAM OUTCOMES

The existing evaluations of employment subsidies were performed in the context of each legislated program (CETA, WIN, TJTC), rather than by type of intervention (subsidized training, wage subsidies). In reviewing these evaluations, we follow this organization.

##### 1. Evaluations of CETA

The post-program effects of participation in the CETA initiatives have been the subject of a substantial amount of research. Some studies were commissioned by the Department of Labor, while others were done by independent researchers. Barnow (1987) provides a critical review of this literature. None of the CETA evaluations focuses only on the on-the-job training (OJT), work experience (WE) or public service employment (PSE) components; however, in most cases, differential impacts have been estimated for each of the major components.

The analysis techniques used by all of the CETA evaluations were non-experimental. They utilized a variety of comparison group techniques in order to control for non-random differences between participants and non-participants. Participants data were collected from a sample of CETA enrollees interviewed by the Continuous Longitudinal Manpower Survey (CLMS) during

a three-year period--1974, 1975, and 1976. The comparison group was drawn from the March CPS. Both samples were supplemented with data from the Social Security earnings records.

The size of the overall estimated impact of CETA on participants' earnings varies widely across studies. The only recognizable general pattern is that the effect on earnings is positive for women and almost negligible for men. PSE and OJT in general tend to have larger impacts than other components of CETA; however, this result could be due to the selective assignment of more job-ready participants to the more employment-intensive components, rather than to the higher effectiveness of these intervention methods. In addition, one needs to remember that the data utilized in all CETA evaluations came from a period in which the direct creation of jobs in the public sector was increasingly used as a countercyclical measure in response to the 1975 recession. This fact needs to be taken into account in interpreting the estimated impacts pertaining to the PSE component; the average PSE participant during this period was likely to be less economically disadvantaged than the average participant in other components, or in similar E&T programs.

Only one of the CETA evaluations (Bassi et al., 1984) estimated the impact of CETA separately for welfare recipients and for other disadvantaged adults not on welfare. We reproduce in more detail the results of this evaluation for welfare participants only. For all CETA components taken together, Bassi et al. found a positive and significant impact only for white women (in the range of \$850-950 per year, 1977 dollars) and minority women (\$650-700 range). For men, the impact was either negative, or positive but statistically insignificant. This general pattern was not replicated when the components were considered separately, however. Participation in PSE jobs increases post-program earnings significantly for all groups of welfare recipients (in the \$1200-1600 range), with the exception of minority men, and substantially more than participation in the other components. The impact of classroom training is negative for

men, and small and insignificant for women. Work experience and OJT have consistently positive but not significant results for all demographic groups.

Taken at face value, these results suggest that, for welfare recipients, only PSE-type of subsidized employment is effective in increasing future employability. However, the failure to correct for the many biases discussed in Section III, in particular for the PSE component, makes this result far less than convincing.

## 2. Evaluations of WIN

Because the WIN program, by its very nature, was targeted to welfare recipients, the evaluations of WIN are in principle more relevant to this review than those pertaining to CETA. We review the evaluation sponsored by the Employment and Training Administration of the U.S. Department of Labor and conducted by Ketron, Inc. (1980).

The Ketron evaluation was conducted with a comparison group technique, rather than with a controlled experiment. Unlike the CETA evaluations, the comparison group was selected from the pool of WIN registrants who were not served by the program, rather than from a general household survey. This procedure has the advantage of producing a comparison sample with very similar demographic and labor market characteristics, but can be sensitive to the systematic selection operated by program administrators of more job-ready (or more motivated) participants. Thus, there is the potential for overestimating the impact of the program, since the sample of participants and non-participants may vary along dimensions that are observable to the program administrator, but not to the analyst conducting the evaluation. The design adopted by Ketron does not eliminate the assignment bias, discussed in Section III.

The sample members of both groups used in the WIN evaluation exhibited both a high degree of welfare dependence and a low attachment to the labor force. At baseline, the average

non-participant had been on AFDC for 18 months, and 19 percent had never worked. Among participants, these figures were 16 months and 17 percent, respectively. Both samples were interviewed three times at six-month intervals, and then again two years later. Data on a number of performance measures were collected, including annual earnings, weeks worked, hourly wages, weeks on welfare, and AFDC benefits received. These data yielded estimates for the 12 quarters following WIN participation, and were used by Ketron to compute measures of net impacts for each of the three years following participation. Impact estimates were computed separately for male and female participants. The overall net impact of WIN on the first year earnings of men and women was modest, but statistically significant. The annual earnings of men improved by \$422, and women's earnings increased by \$286 (1975 dollars). Given women's lower levels of earnings in general, this lower absolute gain might have actually implied a greater gain in relative terms over their male counterparts. By the second year, the earnings advantage of male participants over male comparisons essentially vanished, and in the third year there was no positive impact. The rate of decay for women was less dramatic, but still significant. The second-year WIN impact of women was \$258, while it was \$168 in the third year. The WIN impact of other outcome measures showed similar patterns. The first year increase in earnings translated into about 3 additional weeks per year of work for men and 2.5 for women. By the third year, men worked .2 additional weeks, and women worked .4 more weeks, although neither measure was statistically significant. Most of the impact on earnings actually was due to the modest increase in weeks worked, since the impact on hourly wage was negligible for both men and women. Finally, WIN had no significant effect on women's monthly AFDC benefits.

The Ketron study also estimated the impact of the separate components of WIN. The results suggest that the services involving subsidized employment (OJT, PSE, work experience) resulted in substantially larger earnings impacts. The average impact of OJT on male earnings

in the first year was \$1,964, declining to \$1,363 and \$1,146 in the two subsequent years. The absolute impact on women earnings is about one-half of that of men--\$903 in the first year, \$649 in the second, and \$591 in the third year. Longer length of participation in OJT tended to correspond to a longer impact on annual earnings. The impact of seven months of OJT was almost double that of three months, for men and women. Also, the impact was larger for participants with no prior job experience.

The estimated impact of PSE on earnings was even larger than that of OJT. In the first year, it was \$2,146 for men and \$1,494 for women. For men, the subsequent decline was very sharp, larger than that for the OJT component--the earnings gain was only \$894 in the third year. On the contrary, women that had been on PSE experienced one of the smallest declines, from \$1,494 in the first year to \$1,258 in the third year.

By contrast, the other two major components of WIN, classroom training and job placement assistance showed little or no positive impact on earnings. For male participants, the impact of both components was negative (although not significant), while for women, the impact of classroom training was small (\$419 in the first year and \$392 in the third) and that of job placement essentially zero.

Several facts can account for these differentials. Obviously, the more employment-intensive components might be truly more effective. On the other hand, several methodological problems discussed previously may lead to biased estimates of the impacts. Nothing in the evaluation design controls for the "creaming" effect, or assignment bias. Moreover, the high likelihood of "roll-over" from PSE jobs to unsubsidized jobs with the same public employer may account for the substantially larger impacts of PSE.

### 3. Evaluation of Supported Work for AFDC Women

The National Supported Work demonstration began serving AFDC recipients in seven sites in 1975. The AFDC recipients eligible for Supported Work were considerably more disadvantaged than the average CETA, or even WIN, participant. Only 5 percent were white, approximately 70 percent did not finish high school, and the average duration on AFDC was 8.6 years.

Supported Work was found to have substantial and lasting impacts on the post-program employment and earnings of its AFDC enrollees. Masters and McDonald (1981) estimated the impacts during the period 16 to 36 months after enrollment (approximately the two-year period following program termination). They estimated that, during this period, members of the experimental group worked more hours per month than the control group (+ 8.4 hours), they earned more per month (+ \$59), and they received less in monthly transfer payments (\$32 less in public assistance and \$10 in food stamps).

The evaluation of Supported Work involved an extensive differential impact analysis (Masters and Maynard, 1981). In terms of hours of work in the 19 to 27th month follow-up period, the program had the greatest net impact on those who had not completed high school, those who had been on welfare for more than seven years, those who had never worked before, and those who had little or no recent job training. Unlike the findings for WIN and CETA, race did not appear to be correlated with the effectiveness of Supported Work. In terms of the differential impact on welfare dependence, the differences among subgroups were not as great as they were for hours of work. The program had the greatest impact on those who had no prior work experience and those who received greater amounts of welfare, as well as those who had four or more dependents. In general, the impact on both hours of work and welfare receipt seemed to be

greater for participants who were more disadvantaged in the labor market when they joined the program.

## B. IMPACT OF WAGE VOUCHERS ON SHORT-TERM EMPLOYMENT

In this section we review evidence, mostly from controlled experiments, on the effect of wage subsidies (made available in the form of vouchers) on the job-finding rate of eligibles. Most of these studies were designed to test whether the subsidy had a positive impact on the employer's propensity to hire individuals identified by the voucher as eligible. Overall, the results of these studies cast serious doubts on the efficacy of vouchers as a mechanism for "marketing" welfare recipients eligible for a wage subsidy. However, this negative impact cannot be generalized to all possible forms of wage subsidies, and all possible target groups.

### 1. The Racine/Eau Claire Study

This study compared a cohort of WIN clients who received placement services prior to the initiation of the study to clients served after the experiment began (Moran et al., 1982). As part of the training, members of the latter cohort were instructed to inform employers of their eligibility for a WIN tax credit, while the prior cohort was not. Holding demographic characteristics constant the WIN clients instructed to tell employers about their eligibility were half as likely to obtain a job. This difference was found to be statistically significant at the 10 percent level of significance. A follow-up of some of the WIN clients in the "experimental" group revealed another interesting finding. Those persons who did not follow the instructions to tell prospective employers about the subsidy were more likely to find employment than those who did follow the instructions. Of those who reported using the subsidy as a self-marketing tool only 6 percent found a job, while 19 percent of those who did not mention the subsidy percent found

jobs. This difference was not statistically significant, however, so it should be viewed as suggestive only (Bishop, 1990).

## 2. The Dayton Experiment

This study, which was part of the Employment Opportunity Pilot Project, was intended to assess the effect of wage subsidies on job search efforts of public assistance recipients (Burtless and Cheston, 1980). It used an experimental design, in which public assistance recipients (also eligible for the wage subsidy) were randomly selected into three groups. Eligible job seekers in the first group were provided with a TJTC or WIN tax credit voucher and were instructed to use the voucher as an important part of their job search effort. They were also provided with written material about the subsidy to be distributed to employers. The main goal of this first type of experimental treatment was to inform employers of clients' eligibility for an existing tax credit wage subsidy. The second experimental treatment was almost identical to the first, except that employers hiring eligible job applicants were entitled to receive, instead of a tax credit, a direct cash rebate, computed to be equal in value to the tax credit provided by WIN and TJTC. A third group of randomly selected clients became the control group. Members of the control group were not informed of their eligibility for TJTC or WIN, but were otherwise given the same job search training provided to the treatment groups.

After the job search training, all participants in the Dayton experiment were expected to spend six weeks in intensive job search. At the end of that period the wage voucher expired. A comparison of the job finding rate of vouchered and unvouchered participants provides evidence on whether wage subsidies increase employment opportunities among welfare recipients. The most striking result of this experiment is that the two groups receiving the voucher were significantly less likely to find employment than the control group (12.8 percent versus 20.6

percent found employment during the eight-week training and job search period).<sup>6</sup> In his evaluation of the study, Burtless (1985) claims that this result clearly indicates that employers perceive eligibility for the subsidy as an indication of being an undesirable worker.

### 3. The Wilkes-Barre Job Search Voucher Project

This experiment, conducted in Wilkes-Barre, Pennsylvania, tested the impact of making wage vouchers or tax subsidies available to employers hiring disadvantaged youth (Rivera-Casale, et al., 1982). The unit of observation was the employer rather than the job seeker, as in the other experiments. The main difficulty in conducting this demonstration was to distinguish the new experimental vouchers from the TJTC already available. TJTC was available to firms hiring 18- to 24-year-olds, so the program was expanded and the new voucher was given to firms only for hiring 16- to 17-year-olds. After stratifying firms by size, industry, and location, employers were randomly assigned to one of three categories. Firms in the first group were visited by job developers from the local Youth Employment Service (YES) and encouraged to hire 18- to 24-year-olds by taking advantage of TJTC, as well as to hire 16- to 17-year-olds by taking advantage of the additional subsidy. The size of the subsidy was \$1.80 per hour during the first three months the youth worked at the firm and \$1.00 per hour for the next five months. Firms in the second group were encouraged only to take advantage of TJTC, while firms in the third group served as controls and were not visited by the job developers. Approximately 125 employers were assigned to each group.

This experiment served to test: 1) the effect of providing subsidies to firms hiring 16- to 17-year-olds; 2) the effect of utilizing TJTC as a marketing tool for obtaining jobs for youth;

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<sup>6</sup>No significant difference in the job placement rate was found between the tax credit and the cash rebate treatment.

3) the possible displacement of 18- to 24-year-olds by the subsidized 16- to 17-year-olds. The main finding of the demonstration was that the subsidies had no effect on employer hiring behavior--virtually no employer took either the special vouchers or the TJTC.<sup>7</sup> In spite of the minimal response, the Wilkes-Barre subsidy program had a potential advantage over the TJTC and the WIN-TC programs, that are operated largely as employer-initiated programs. Under TJTC and WIN-TC, employers have to make special efforts to recruit and screen eligible workers. In Wilkes-Barre, the local employment agency not only promoted the program with each employer in the treatment group, but also was ready to provide eligible applicants from its pool of participants.

For at least two reasons, it is difficult to generalize the results of the Wilkes-Barre demonstration. First, the experiment was conducted between 1980 and 1981, at the onset of a severe economic downturn. Targeted wage subsidies are powerless in an environment of high unemployment. Sixty-eight percent of the firms in the sample reported no vacancies (for any workers) at the time of the baseline interview. Second, the later experience with TJTC clearly shows that its use tends to be highly concentrated in a few industries (primarily the retail and hospital sectors), and among large employers (Bishop, 1990). To be representative of TJTC potential use, the sample should have been stratified along those lines. The baseline interviews showed that 73 percent of the firms in the demonstration did not employ any 16- to 17-year-olds, and 50 percent were not planning on hiring any 18- to 24-year-olds.

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<sup>7</sup>Only 3 employers out of the 125 of the first treatment group took advantage of the special subsidy for teenagers. Exactly one employer in each group hired TJTC subsidized workers. However, the employer from the first treatment group claimed the credit for 7 youth.

## C. DIRECT EVIDENCE ON EMPLOYERS' ATTITUDES TOWARD WAGE SUBSIDIES

Four surveys provide direct evidence on employers' attitudes toward the TJTC wage subsidy program: a 1980 survey that was part of the Employment Opportunity Pilot Project (EOPP); a 1982 follow-up survey of the EOPP conducted by the National Center for Research on Vocational Education (NCRVE); a 1984 survey of employers who had hired only one TJTC worker in 1980 and 1981; and a 1985 survey of firms in industries who were heavy users of TJTC.

### 1. Extent and Determinants of TJTC Participation Among Employers

TJTC has remained through the years a relatively small scale program, despite being an entitlement program. At its peak in FY 1985, TJTC was subsidizing only 0.7 percent of total private sector employment. Bishop (1990) presents an extensive review of the evidence on the causes of the low TJTC participation rate, based on the first two of the employer surveys quoted above. He identified four causes for the low participation rate:

- lack of knowledge of the program;
- administrative costs of participation;
- perceived lower productivity of TJTC eligibles;
- lack of incentive for local managers.

The evidence for each of these causes is discussed below.

Lack of knowledge. Some employers are not aware of the availability of the program, and most of them do not have direct experience with it. Two years after the start of the program, the 1980 survey found that only 17 percent of employers (representing 33 percent of all private employment) were "familiar" with TJTC. Two years later, the NCRVE survey reported that 77 percent (representing 90 percent of employment) had "heard" of TJTC. However, only a very

small proportion of employers was contacted directly by government officials about the program or had initiated a personal contact to learn about it. As a result, most employers are reported to hold negative beliefs about the program that are not based on actual experience or direct knowledge.

Administrative costs. There are substantial employer administrative costs that appear to be a barrier to participation in the program. There are both start-up costs (e.g. learning about the rules of the program) and costs of identifying and certifying eligible workers (contacting the employment service and completing paperwork for each eligible hire). The 1982 survey provides direct evidence on these costs from explicit questions asked of those employers who had heard about TJTC. Indirect evidence comes from the fact that participation increases dramatically with the size of the firm (Bishop, 1990). Moreover, participation is highly concentrated among a small number of employers: in 1983, between 50 and 100 employers out of 3.5 million were responsible for more than half of all TJTC certifications.

Perceived Lower Productivity. Studies report a widespread view among employers (those who have at least heard of the program) that TJTC eligibles are less productive than other workers, and that the subsidy does not fully compensate for their lower productivity. The view that eligible workers are on average less productive is likely to be correct, in particular if the program is effectively targeted to the hard-to-employ. The degree to which a (fixed) subsidy is expected to compensate for the lower productivity might vary substantially from firm to firm, depending on its technology, and, from worker to worker. The administrative costs of participation might also be different from firm to firm, adding to the variability in the "value" of the subsidy to the employer. Therefore, it is not surprising that, while some employers find the

subsidy advantageous, others believe that it does not compensate for hiring those who they perceive as less productive workers.<sup>8</sup>

Lack of incentive for local managers. In multi-establishment firms, the local managers responsible for hiring the eligible workers might incur negative returns from doing it, even when the firm's stockholders, who benefit from the tax credit, incur positive returns. The need to establish direct incentives for local managers is shown in the 1985 survey of large TJTC users. The survey shows that 55 percent of these corporations have established monetary incentives for local managers in order to increase the hiring of TJTC eligibles. This suggests that when such direct incentives are not established, TJTC eligibles do not get hired, despite the fact that the subsidy, from the firm's point of view, might compensate for their lower productivity.

## 2. Evidence on How TJTC Affects Hiring Practices of Employers

The fact that a firm is claiming the wage subsidy for some of its new hires is not by itself evidence that the subsidy program is cost effective. What has to be shown is that the firm has changed its hiring and training practices in order to hire eligible applicants for jobs that would otherwise have gone to "better qualified" workers, and find ways to increase the number of eligibles in the pool of applicants for a job.

Aggressive Recruiting of Eligibles. Typically only a very small proportion of a firm's job applicants are eligible for the TJTC subsidy, since the size of the target group is many times smaller than the size of the unemployed pool. Therefore, if things are left to chance, even

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<sup>8</sup>As Bishop (1989) puts it "...it is very difficult to change employer behavior by offering a subsidy of tax credit. The carrot being offered has strings and paperwork attached to it. Employers know that before they can benefit from a subsidy they will have to learn what the strings are and how to do the paperwork. Like all busy people they place a high value on their time; attracting them into the program requires either a big carrot or convincing evidence that paperwork is minimal and that the strings are not particularly burdensome. A big carrot is not the solution because the large carrot implies low cost effectiveness...".

giving preference to those applicants who are found to be eligible might not be an effective way of increasing the number of eligibles hired. Only an aggressive recruitment policy on the part of the firm, such as requesting referrals from agencies that have access to lists of eligibles, has the promise of achieving this goal. Data from the 1982 employer survey (Bishop, 1990) indicate that 27 percent of firms participating in TJTC had requested referrals. This percentage rises to 56 when firms are weighted by size, indicating that large firms are more likely to pursue an aggressive recruitment policy. The same survey asked employers who had hired workers known to be TJTC eligible before the hiring decision was completed, the following question: "How did you learn of their eligibility?" In about 50 percent of the cases, an employment service referred the worker to the company, usually in response to a specific request for TJTC eligibles. Only in 25 percent of the cases did the applicant directly inform the prospective employer. The latter figure is in agreement with anecdotal evidence reported by Bishop; he reports that many placement counselors recommend that TJTC eligibles seeking employment not mention TJTC in interviews unless directly asked by the employer.

Hiring Preference. Bishop (1990) concludes his review by stating that most firms participating in TJTC try to prevent eligibility for TJTC from influencing who is hired from the pool of applicants considered. In the 1982 survey, only 33 percent of the users said that TJTC had either a great or moderate influence on who was hired. Similar results were obtained from the other surveys. In the 1985 survey of large TJTC users, 75 percent of the companies reported that screening for eligibility takes place after the hiring decision has been made.

Another way to address this issue is by asking employers to compare the productivity and training provided to particular subsidized and unsubsidized workers holding the same job. If the wage subsidy induces firms to lower their hiring standards in order to hire more eligibles, we would expect subsidized workers to have poorer credentials, to be less productive, to require

more training, or some combination of the above. The evidence on the relative productivity of TJTC eligibles is mixed<sup>9</sup>. Among the employers who were actively attempting to hire more TJTC eligible workers, TJTC hires had less schooling but were no less productive and did not require more training than unsubsidized workers doing the same job. Among the employers who were aware of TJTC but did not pursue an active TJTC recruiting policy, the TJTC eligibles who were hired anyway had the same qualifications and got the same training, but were significantly more productive and had significantly lower turnover rates than other similar workers. One possible interpretation for this finding is that job applicants known to be TJTC-eligible are screened more carefully than others by those employers who do not make special efforts to recruit them; TJTC eligibility becomes a handicap that needs to be overcome by looking particularly promising in other respects.

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<sup>9</sup>Bishop reviews also some evidence on CETA-OJT. This evidence suggests that OJT subsidized new hires were less productive, received more training, and experienced much higher turnover than non-subsidized workers at the same firm.

## V. SUMMARY AND CONCLUSIONS

This review of employment subsidies covers a wide array of government interventions aimed at providing disadvantaged individuals with better employment opportunities, ranging from programs providing a wage subsidy to employers to induce them to hire more disadvantaged workers for existing private sector jobs, to the creation of protected working environments, where participating individuals can learn basic work habits under conditions of gradually increasing stress and close supervision. Given the heterogeneity of the programs considered, it is not surprising to see very diverse, and often contradictory, research findings on their effectiveness. Contributing to this uncertainty are the evaluation techniques used, many of which do not meet today's standards for rigorous program evaluation. With these caveats in mind, we briefly summarize the main findings of this literature.

### A. WAGE SUBSIDIES

When wage subsidies are paid to private employers and administered in the form of vouchers, the available experimental and non-experimental evidence clearly indicates that they do not significantly improve employment opportunities for those eligible for the subsidy. Some of the studies reviewed even show a negative effect of wage subsidy vouchers on the job placement rate of eligibles; persons instructed to inform employers of their eligibility for TJTC or WIN were less likely to find employment than comparable persons who did not receive such instruction. The reason for this negative effect may be that the targeting of the subsidy to welfare recipients creates a signal for the employers to use in screening out welfare recipients as potentially undesirable employees.

Evidence from employer surveys indicates that extensive barriers exist to employer participation in wage subsidy programs, in particular TJTC. These barriers include: lack of knowledge of the program, high administrative costs associated with participation, and lack of incentive for local managers to participate. Given the costs of participating, many employers do not believe the financial gain from the subsidy compensates them adequately for the lower productivity of the workers.

Even among participating employers, TJTC does not seem to be cost-effective. From direct admission of a sample of interviewed employers, we know that in a large proportion of the cases the screening for TJTC eligibility takes place after the hiring decision has been made. Therefore many of the employers who are taking advantage of TJTC may be experiencing a windfall, since they receive a subsidy for workers they would have hired anyway.

## B. SUBSIDIZED TRAINING

Participation in the on-the-job training component of CETA and WIN seems to increase the post-program earnings of participants above the earnings of similar individuals who do not participate in those programs or who participate in other components, such as classroom training or job placement assistance. The major problem with this finding derives from the evaluation techniques used, which fail to take into account possible unmeasured differences between participants and non-participants (selection bias), or do not correct for the selective assignment of more job-ready participants to the more employment-intensive services (assignment bias).

### C. PUBLIC SERVICE EMPLOYMENT

The estimated earnings impact of this type of program is usually substantially larger than any other form of employment and training. However, several caveats apply. Direct job creation in the public sector was widely used during the 1970s to reduce both structural and cyclical unemployment. Because of the contemporaneous presence of these two objectives, the average PSE participant was less disadvantaged than the typical E&T participant, therefore more likely to benefit from training. PSE jobs were longer and likely to be transformed into permanent positions with the same public employer. It is worth noting that the federal employment policy of the 1980s has completely abandoned PSE as an option to train disadvantaged workers.

### D. SUPPORTED WORK

The National Supported Work Demonstration, using an experimental design, showed that placing long-term AFDC recipients in a protected working environment for a period of 12 to 18 months significantly improved their subsequent earnings performance. Although it is the only example of subsidized employment to show a convincing positive impact on subsequent employability, Supported Work is also perhaps the most expensive type of intervention among those considered in this review.

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