THE TARGETED JOBS TAX CREDIT

Staff Memorandum

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PREFACE

This paper was written by Sandra Christensen, at the request of the Committee on Ways and Means of the U.S. House of Representatives. Christensen is in CBO's Human Resources and Community Development Division under the direction of Nancy Gordon and Martin Levine. Others who contributed to preparation of the paper include Howard Levine and Roald Euller, who provided computer assistance; Francis Pierce, who edited the paper; and Mary Braxton, who prepared it for distribution.

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SUMMARY

The Targeted Jobs Tax Credit (TJTC)--an employer tax credit that reduces the cost of hiring workers from certain disadvantaged groups--is scheduled to expire at the end of 1984. To assist the Congress in considering whether to reauthorize the TJTC, this study reviews information about the operation of the program and discusses the findings from analyses by the Congressional Budget Office (CBO) regarding its effectiveness.

BACKGROUND

The TJTC is a nonrefundable employer tax credit. The credit seeks to induce private-sector employers to try workers from high-risk groups that they might not otherwise choose to hire. Under current law, employers may claim a tax credit for up to two years--50 percent the first year and 25 percent the second year--of the first $6,000 earned annually by newly hired eligible employees. Workers eligible for this credit include low-income youth age 18 to 24, low-income youth age 16 to 19 in cooperative education (work-study) programs, public assistance recipients, disabled workers in rehabilitation programs, low-income Vietnam veterans, and low-income ex-convicts. In addition, employers may claim a credit of 85 percent of the first $3,000 earned by low-income youth age 16 or 17 hired for the summer months. Two-thirds of workers claimed for the year-round program are from youth categories.

In its early years, it was widely believed that the program did not alter employers' hiring decisions but, instead, provided primarily windfall benefits for firms. There were two reasons for this belief. First, about half the workers certified for the credit were youth in cooperative education programs--a group that employers were generally willing to hire without the credit as an inducement. Second, two-thirds of other workers claimed for the credit--from economically disadvantaged groups--were certified retroactively. That is, first they were hired and only later did employers determine their eligibility for the credit. In this instance, too, it seems unlikely that the credit shifted hiring preferences.

To increase the effectiveness of the TJTC, the Economic Recovery Tax Act of 1981 eliminated both eligibility for cooperative education students, unless they were also economically disadvantaged, and retroactive certification. Following these changes, certifications declined in 1982 by about 40 percent, with three-quarters of the decline due to the restriction imposed on eligibility for cooperative education students. The rest of the decline was due, in unknown proportions, to the elimination of retroactive certification and to the recession, which resulted in lower overall demand for workers. By 1983, however, use had returned to its 1981 level of more than 400,000 certifications, reflecting renewed economic growth and greater efforts by the Employment Service to implement the program. Still, only about 10 percent of employers have used the credit, and employers

have claimed the credit for fewer than 10 percent of the eligible workers they have hired.

EVIDENCE ABOUT THE PROGRAM

There are two major questions about the TJTC in its present form. First, is it effective? That is, does it generate jobs for targeted workers that they would not have had without the subsidy? Second, if it is effective, how can employer participation be increased in order to provide benefits to a greater number of workers?

Is the TJTC Effective?

For a number of reasons, it is very difficult to assess whether the TJTC generates additional employment for targeted workers. For one, the credit is available to all for-profit firms, so that it is impossible to set up a controlled experiment to evaluate employers' responses to the credit. Further, information about the employment of targeted workers is very limited. Data are sufficient for analysis only for the largest of the nine target groups--low-income youth age 18 to 24.

Based on an analysis of the data that are available, it appears that the credit has encouraged hiring of low-income youth. In a 1982 survey, about a third of employers who responded (all of whom had used the credit) said

that it significantly influenced their choice of which workers to hire. Another 22 percent said it influenced their choice only slightly. An examination by CBO of employment data for 1980 and 1981 indicated that the proportion of workers who were under age 25 was higher by at least 6 percent, on average, in firms that had used the credit compared to similar firms that had not used it. Targeted youth appeared to gain in employment without adverse effect on employment of nonpoor youth, perhaps because employers structured their hiring practices toward youth in general in response to the credit. Since there was no consistent evidence that the credit increased employment overall, employment gains for youth may have been at the expense of adult workers who were displaced. Even if displacement was substantial, though, the credit may be desirable if it reduces the concentration of unemployment on disadvantaged groups.

How Can Employer Participation Be Increased?

If the Congress chooses to reauthorize the TJTC, the next question is how to increase employers' use of the program. If the 90 percent of firms not now using the credit were contacted by Employment Service personnel, told how the program works, and asked to accept program referrals, CBO estimates that up to a third could be persuaded to do so. Success rates would probably be highest in large firms with a high proportion of low-skill jobs, and lower in small firms or firms with few low-skill jobs.

Even with such efforts, however, a substantial proportion of employers are unlikely ever to use the credit. For example, employers who do not pay taxes--about 30 percent of firms--cannot benefit from the TJTC. Further, employers whose products or services cannot be produced with low-skill labor will not use the credit, since they cannot employ the kind of workers who are eligible for it.

CHAPTER I. INTRODUCTION

The Targeted Jobs Tax Credit (TJTC) is a non-refundable employer tax credit intended to increase private sector employment for certain disadvantaged groups. The credit was initiated by the Revenue Act of 1978, but has been modified with each subsequent reauthorization, in 1981 and 1982. It will expire at the end of December 1984 unless reauthorized.

There are two principal concerns about the TJTC. One is that use by employers is low, with the result that the impact of the program on employment for targeted groups cannot be large even if the credit alters the hiring patterns of employers who use it. The second concern is that the credit may provide windfall benefits to employers who use it without changing their hiring patterns.

This study investigates each of these concerns. Chapter II describes the TJTC and other federal employment subsidies targeted on the disadvantaged. Chapter III analyzes data from a survey of employers to identify the determinants of employers' use of the TJTC and whether it appears to alter their hiring preferences. Finally, Chapter IV examines evidence for individuals from the largest target group--disadvantaged youth

age 18 to 24--to assess what employment benefits they get as the result of the TJTC. The empirical results reported in this study are tentative, though, because of difficulties in interpreting the findings that are explained in the relevant sections.

CHAPTER II. THE TARGETED JOBS TAX CREDIT

The TJTC is a subsidy, intended to increase employment prospects for members of designated groups that experience unusual difficulty in finding jobs even in a healthy labor market. Subsidies reduce the cost to employers of hiring from these groups, making targeted applicants better able to compete with unsubsidized job-seekers. Subsidies are intended to compensate, at least partially, for whatever disadvantages members of the targeted groups have relative to other members of the labor force. These disadvantages may be either real or perceived differences in work skills between the targeted groups and other workers.

If targeted groups are actually less qualified, on average, than other workers, subsidies must be sufficient to compensate for their lower productivity and must last long enough for them to increase their productivity to that of other workers by learning on the job. If target group members are at a disadvantage because of employers' inaccurate perceptions about their productivity, subsidies must be sufficient to compensate for their lower expected productivity but need not be of long duration, since short-term subsidies are sufficient to allow employers to try target group employees and see that their perceptions were inaccurate.

The number of jobs created by the credit--both net overall and for targeted workers--is likely to fall short of the number of jobs subsidized. To some extent, employers will simply shift their hiring toward targeted workers in response to the credit, without an expansion in overall employment. Economic theory suggests that the credit should result in some increased employment, though, because it lowers the cost of labor. Even the number of new jobs provided to targeted workers will be less than the number of jobs subsidized, since some employers will claim credits for hiring they would have done anyway. To the extent this occurs, the credit is a windfall benefit to the employer. Windfall benefits occur to some degree from all subsidies, though.

Currently, the federal government provides targeted employment subsidies through three programs--the Targeted Jobs Tax Credit (TJTC), the Job Training Partnership Act (JTPA), and the Work Incentive program (WIN). The TJTC is a credit against tax liability that any taxable employer with eligible employees may claim. Subsidies under the JTPA and WIN programs are provided on a discretionary basis to selected employers who have agreed to accept placements of JTPA or WIN participants. 1/ This study focuses only on the TJTC.

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1. In the JTPA and WIN programs, employers may receive subsidies of up to 50 percent of an employee's wage costs in return for on-the-job training. In addition, there is provision under the JTPA for fully subsidized but short-term "try-out" employment with private-sector employers.

THE TARGETED JOBS TAX CREDIT TODAY

The TJTC was initiated by the Revenue Act of 1978 (P.L. 95-200), and subsequently amended and extended by the Economic Recovery Tax Act of 1981 (P.L. 97-34) and the Tax Equity and Fiscal Responsibility Act of 1982 (P.L. 97-284). The current authorization will expire at the end of December 1984.

Under current law, employers may claim a credit of 50 percent the first year and 25 percent the second year on the first $6,000 earned annually by each employee newly hired from any of the following groups:

- Economically disadvantaged 2/ students age 16 to 19 who are in cooperative education programs;
- Economically disadvantaged youth age 18 to 24;
- Ex-convicts who are economically disadvantaged;
- Vietnam veterans who are economically disadvantaged;
- Handicapped persons referred from vocational rehabilitation programs;
- Recipients of general assistance payments;
- Recipients of Supplemental Security Income; and
- Participants in the Work Incentive program and other recipients of Aid to Families with Dependent Children.

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2. Economically disadvantaged persons are defined as those having a family income during the preceding six months that, on an annual basis, was less than 70 percent of the "lower living standard," based on the lower family budget compiled by the Bureau of Labor Statistics (BLS). BLS stopped revising the lower family budget in 1981, though, because it believed the consumer expenditure information the budget was based on was no longer accurate. As a result, the lower living standard has not been updated since 1982, so that real eligibility conditions for the TJTC are increasingly more stringent.

In addition, employers may claim a credit of 85 percent of the first $3,000 earned by each economically disadvantaged youth age 16 or 17 newly hired for employment during any 90-day period between May 1 and September 15.

The TJTC is a capped nonrefundable credit. The total value of the employment credit that a firm may claim is limited to 90 percent of its federal income tax liability less all other nonrefundable credits. If a firm's credit in a given year exceeds this cap or a firm has no tax liability that year, the credit can be carried back for 3 years and forward for 15 years against other years' taxes.

The TJTC is administered by the U.S. Employment Service, through local Job Service offices. The certification procedure was designed to relieve employers from the responsibility of proving that a worker is a member of an eligible group. It was intended that job applicants would first be issued vouchers by the Job Service that verified their eligibility for the credit. Employers would confirm that the applicants had been hired by signing the vouchers and returning them to the Job Service, which would return certificates that the employers could file with their tax returns to substantiate their claims for the credit. 3/ In some instances, however,

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3. Vouchers are issued to job-seekers and provide information about job applicants to potential employers, assuring employers of applicants' eligibility for the credit if hired. Certificates are issued to employers and provide information to the Internal Revenue Service, verifying employers' claims for the credit.

employers (or their agents) refer unvouchered job applicants or newly hired individuals whom they believe may be eligible for the credit to the Job Service to establish their claim to a credit. Incentives for Job Service offices to market the TJTC were increased in 1983 by an administrative decision to allocate administrative funds on the basis of certifications issued.

EVOLUTION OF THE TJTC

The TJTC is not the first federal targeted employment tax credit. It was preceded by the WIN tax credit, authorized in 1971, for which only recipients of Aid to Families with Dependent Children (AFDC) who were certified as employable by the WIN office were eligible. Initially, the credit was set at 20 percent of all wages paid to eligible employees during their first 12 months of employment, with total credits claimed by any firm in one year limited to $25,000 plus one-half of the firm's federal tax liability above $25,000. Use was very low, however, with the result that the tax credit provisions were liberalized in 1975 and again in 1976. Further revisions of the WIN tax credit were authorized by the Revenue Act of 1978, which made it very similar to the new Targeted Jobs Tax Credit authorized by that act. In particular, the WIN credit was increased to 50 percent in the first year of employment, and a 25 percent credit was authorized for the second year of employment. Limits were placed on the amount of wages eligible for the credit for each employee, but the ceiling on total credits

claimed by any one firm was liberalized, limited only by the firm's federal tax liability. The only major difference between the WIN tax credit and the TJTC in 1978 was that eligible employees had to be retained for at least 30 days to be claimed under the WIN tax credit, while there was no retention requirement under the TJTC.

Tax legislation in 1981 eliminated the separate WIN tax credit and added WIN/AFDC participants to groups targeted under the TJTC. It also, for the first time, restricted TJTC eligibility for cooperative education students to those who were economically disadvantaged. Finally, it introduced a requirement that employers hiring eligible employees had to request certification of their eligibility prior to their employment in order to claim the credit.

These last two changes were expected to reduce use substantially because cooperative education students had made up about half of all employees certified for the TJTC, and because about two-thirds of all other certifications were retroactive--that is requested for employees already on the job. It was also believed, however, that a higher proportion of employees subsidized by the credit would represent additional employment generated for targeted groups, rather than just windfall benefits to employers for hiring they would have done anyway.

Following the changes in 1981, TJTC use declined in 1982 by about 40 percent, but three-quarters of the decline was due to the restrictions imposed on eligibility for cooperative education students. The rest of the decline was due, in unknown proportions, to the elimination of retroactive certification and to economic deterioration during the year.

The only substantial change made to the TJTC in its 1982 reauthorization was the creation of a special credit for hiring economically disadvantaged youth age 16 or 17 during the summer months beginning in 1983. Regular TJTC certifications (excluding the new summer youth category) in 1983 were nearly 50 percent higher than in 1982, reflecting renewed economic growth and greater Job Service efforts to market the program. Regular certifications for economically disadvantaged groups (excluding cooperative education but including the WIN group) were a third higher in 1983 than they had been in 1981, despite the elimination of retroactive certification (see Table 1).

In 1983, more than two-thirds of the certificates issued were for youth categories (see Table 2). On average, three times more vouchers were issued than resulted in certificates, although the certification rate varied among the different groups. Among the largest target group--youth 18 to 24--about 45 percent who were vouchered found jobs. Among WIN/AFDC applicants, by contrast, only 17 percent of those vouchered found jobs.

TABLE 1. TJTC CERTIFICATES ISSUED

Fiscal Year	TJTC a/	TJTC Less Cooperative Education
1979 (part year)	79,193	74,638
1980	321,348	186,986
1981	476,705	297,721
1982 b/	275,936	227,881
1983		
Regular Credit	405,968	397,644
Summer Youth Credit	33,538	33,538

SOURCE: Office of Planning and Review, U.S. Employment Service.

a. Includes economic determinations for disadvantaged cooperative education students, although these may not be equivalent to certificates issued for the group. Certifications under the separate WIN program are included for 1979 through 1982.

b. The separate WIN tax credit and TJTC eligibility for nondisadvantaged cooperative education students were eliminated during fiscal year 1982 (at the end of December 1981).

Probably as the result of greater marketing efforts by Job Service offices, the estimated take-up rate for the TJTC--the proportion of eligible newly hired employees who are claimed by their employers--nearly doubled from 3.5 percent in 1982 to 6.8 percent in 1983. 4/ More than 90 percent of eligible individuals who find jobs are not claimed for the credit, however.

4. Take-up rates are estimated only for the group of disadvantaged youth age 18 to 24. They are computed by dividing the number of certifications approved for this group by the estimated number of new hires from this group for the year, which is about 3.8 million.

TABLE 2. TARGETED JOBS TAX CREDITS, BY TARGET GROUPS, 1983

Group	Vouchers		Certifications		Ratio of Certifications to Vouchers
	Number	Percent	Number	Percent	
Cooperative Education a/	8,324	0.6	8,324	1.9	1.00
Youth 18-24	581,795	44.9	259,309	59.0	0.45
Ex-convicts	94,545	7.3	21,929	5.0	0.23
Vietnam Veterans	80,808	6.2	24,141	5.5	0.30
Vocational Rehabilitation	78,683	6.1	25,412	5.8	0.32
General Assistance	65,169	5.0	14,480	3.3	0.22
Supplemental Security Income	3,115	0.2	1,254	0.3	0.40
WIN/AFDC	294,394	22.7	50,736	11.5	0.17
Summer Youth	87,308	6.7	33,538	7.6	0.38
TOTAL	1,295,271	1.00	439,506	1.00	0.34

SOURCE: Office of Planning and Review, U.S. Employment Service.

a. The number of economic determinations made for disadvantaged cooperative education students is included both as vouchers and as certifications, although it may not be equivalent to certifications issued for the group.

CHAPTER III. RESPONSES OF EMPLOYERS TO THE TJTC

There is no reason to seek ways in which to increase employers' use of the TJTC if the credit does not alter employers' hiring decisions, inducing them to hire more employees from targeted groups. If hiring decisions are not affected, then the TJTC simply provides windfall benefits to employers using it, without serving goals the Congress intended. 1/

This chapter describes the patterns of TJTC use by employers, investigates the factors that influence whether employers will use the TJTC, and obtains estimates of whether the TJTC has altered the hiring practices of employers. Most of the information given here is derived from a survey of employers made in early 1980 and repeated in early 1982. The respondents are a random sample of for-profit establishments from 28 locations around the country. (See Appendix A for descriptions of the data and the methodology used here.)

1. Even if employers do not alter their hiring patterns in response to the credit, some employment benefits for the targeted groups could result from use of the credit if firms made enough use of it to reduce their costs appreciably, thereby expanding the number of workers they hire. But only firms that make relatively heavy use of low-skill employment are likely to have enough employees eligible for the credit to result in a significant reduction in costs.

About 10 percent of employers in the survey sites had used the TJTC by 1982, up from less than 1 percent in 1980. 2/ Firms that used it tended to use it heavily, with 20 percent of employees subsidized, on average (see Table 3). Employers in manufacturing, in wholesale or retail trade, and in service industries were more likely to use the TJTC than those in other industries. Use was strongly related to firm size.

Employer use also varies by region. The TJTC is used most intensively in the South, which generated 43 percent of TJTC certifications in 1982, but had only 33 percent of all employment. Use is least intensive in the Northeast (see Table 4). Regional variation in use is probably at least partly due to variation in local promotional efforts, since certifications tend to be high relative to employment in states where the number of vouchers is high relative to the size of the eligible population. 3/

DETERMINANTS OF USE BY EMPLOYERS

A number of factors may influence whether a given employer will use the TJTC, and sorting them out can help determine how

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2. These figures, and those reported in Table 3, are based on responses weighted to reflect sampling probabilities in the survey sites. About 21 percent of all respondents to the 1982 survey had made use of the credit.

3. The simple correlation between the voucher rate and the certification rate across states was .65 in 1982. Certifications have been a fairly constant proportion of vouchers from year to year, despite large changes in the number of vouchers issued.

TABLE 3. ESTIMATED USE OF THE TJTC BY EMPLOYERS, 1982

Type of Employer	Percent of All Firms in the Survey Sites	Percent of Firms That Used the TJTC	Percent of Employees Subsidized in Firms That Used the TJTC
By Number of Employees			
4 or less	36	4	18
5-19	41	10	26
20-49	13	12	9
50-199	7	21	21
200 or more	2	44	14
By Industry			
Agriculture	*	0	0
Mining	1	2	1
Construction	9	8	10
Manufacturing	8	13	18
Transport/Utilities	4	6	15
Wholesale/Retail Trade	40	11	32
Finance	9	5	8
Other Services	28	10	10
All Employers	100	10	20

* Less than 0.5 percent.

SOURCE: 1982 Employer Survey funded by the National Institute of Education and the National Center for Research in Vocational Education. This survey is not nationally representative, but is representative of both urban and rural sites in three regions--South, North Central, and West. In all, 3,710 employers responded to the survey.

TABLE 4. EMPLOYER USE OF THE TJTC, BY REGION, 1982

	Certifications as Percent of Total a/	Employment as Percent of Total b/
Northeast	17.5	23.0
North Central	22.3	25.4
South	43.1	33.4
West	17.1	19.8

SOURCE: TJTC administrative data; and Employment and Earnings, May 1983.

a. The total number of certifications in fiscal year 1982 was 202,261. Certifications for cooperative education students are not included here.

b. Average nonagricultural employment for calendar year 1982 was 88.5 million.

important program outreach efforts are and where promotional efforts would be best concentrated if the credit is an effective way to alter employers' hiring practices. 4/ Some employers are unlikely ever to use the credit, however. For example, employers who do not pay taxes--about 30 percent of firms--cannot benefit from the credit. Further, employers whose products or services cannot be produced with low-skill labor will not use the credit, since they cannot use the kind of workers who are eligible for it.

4. See John Bishop, ed., Subsidizing On-the-Job-Training: An Analysis of a National Survey of Employers, National Center for Research in Vocational Education, and Institute for Research on Poverty (1982), p. 25, for an earlier analysis of employers' use of the TTJC.

The most important determinants of use are outreach efforts by the program's administrators, the size of the firm, and the percent of workers in the firm under age 25 at the start of the survey period. Other factors that are positively related to TJTC use are the employer's demonstrated willingness to fire unsatisfactory employees and the employer's attitude toward involvement in government programs. Firms in service industries are most likely to use the TJTC, followed by firms in wholesale and retail trade (see Table A-3 in Appendix A).

Outreach is an important determinant because a firm cannot use the TJTC if it does not know about it. The outreach measures used in this study included contacting firms to inform them of the program, and asking them to accept TJTC-eligible referrals. The results reported in Appendix A indicate that the probability of using the TJTC is increased by 21 percentage points for firms that are informed about the credit, and by 32 percentage points for firms that are also asked to accept eligible referrals.

Firm size is important for two reasons. First, large firms are more likely to be informed about the TJTC because the agencies responsible for administering it would likely concentrate their promotional efforts on large establishments, which are more likely to be hiring at any given time. Second, large firms have more incentive to use the credit because they are more likely to recover the relatively fixed costs of learning

about the credit and of modifying their hiring practices to take advantage of it.

The third factor, a high proportion of young employees, is important because it indicates that the firm has low-skill jobs suitable for TJTC-eligible workers. Demonstrated willingness to dismiss employees is a determinant of TJTC use because it means that a firm can easily correct hiring mistakes. This is important, since the purpose of the TJTC is to induce firms to hire workers they would normally be reluctant to hire. Most employers feel that hiring a subsidy-eligible worker means they are taking a greater risk that things will not work out.

These results are consistent with findings from a TJTC marketing experiment conducted by the Wisconsin Department of Health and Human Services in early 1981. In that experiment, it was found that large firms were more likely to use the TJTC and that telephone contact from TJTC personnel significantly increased the likelihood of employer use, although this result could be a spurious effect of biases introduced by the researchers' decision to eliminate firms that refused the telephone promotion from the sample. 5/

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5. Mail-only promotional efforts were positively related to greater use, but this finding was so weak that it could have been the result of random variation in the data. See Jean Badeau and others, "Jobs Tax Credits--The Report of the Wage Bill Subsidy Research Project, Phase II," Wisconsin Department of Health and Social Services and the Institute for Research on Poverty (January 1982).

Respondents to the Employer Survey who did not plan to use the TJTC gave various reasons for their decision. Among those who had previously used the credit, 18 percent said that they had been dissatisfied with Job Service referrals; 15 percent said that claiming the credit involved too much paper work; and 17 percent said that eligible workers were either too unskilled or unreliable. Only 3 percent cited concern about government interference. Among those who had not used the credit, 30 percent said that they did not use the Employment Service (see Table 5).

EFFECTS OF THE TJTC ON EMPLOYERS' HIRING PATTERNS

Responses from the Employer Survey indicate that the TJTC does alter the hiring decisions of employers. When asked whether an employee was more likely to be hired if eligible for the credit, 34 percent of those responding said that TJTC eligibility affected the decision significantly. Another 22 percent said it had some effect, though small. The remainder said the credit had no effect on their decisions. There is reason to be skeptical of such self-reported responses, however, since the TJTC clearly benefits employers who claim it whether or not it alters their hiring decisions to benefit the targeted workers. Consequently, employers may say that the program is having its intended effect even if it is not, because they want to see it continued.

More objective evidence that the TJTC alters hiring decisions comes from empirical estimates of firms' employment, where TJTC use is one of

TABLE 5. REASONS EMPLOYERS GIVE FOR NOT PLANNING TO USE THE TJTC IN THE FUTURE

Reasons	Percent of Respondents Citing This Reason Who a/ Have Used TJTC	Have Not Used TJTC
Didn't think of it	4	2
Don't expect to be hiring	10	16
Will not be needing types of workers who might be eligible	9	10
Employment Service or other agency is too slow	2	*
Don't use the Employment Service	20	30
Dissatisfied with Employment Service referrals	18	10
Too much paper work	15	14
Eligible workers not skilled enough	9	19
Eligible workers not reliable enough	8	4
Applicants should be judged by qualifications, not by whether tax credit is available	19	6
Would not benefit because we have no tax liability	0	*
We are not eligible	1	1
Tax benefit not big enough	2	2
Might result in government interference	3	5
Other	5	5

* Less than 0.5 percent.

SOURCE: 1982 Employer Survey.

a. Percents sum to more than 100 because respondents could list up to three reasons for not planning to use the credit.

the explanatory variables, but these estimates should be viewed with caution for several reasons. For one, estimates of the program's effects were obtained by contrasting employment in firms that used the credit to employment in firms that did not use it, although the credit was an option available to all employers in the survey. This methodology yields less reliable results than could be obtained from a controlled experiment, where the credit would be available to some employers and not to other, otherwise similar, employers. Further, it was necessary to use the proportion of employment under age 25, instead of target group employment, as a measure of the program's effects because no information was available on the proportion of employees who were economically disadvantaged. The presumption was that any increase in the share of youth employment by firms that was associated with use of the TJTC would be due to increased hiring of youth eligible for the credit.

The results show that TJTC use was positively associated with an increase in the proportion of employment made up of workers under 25, but there was no consistent evidence that TJTC use increased total employment (see Tables A-4 through A-7 in Appendix A). 6/ The estimates indicate that

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6. These results hold even after eliminating the possibility of a reverse relationship between employment and TJTC use--where firms that are growing or that are altering their production techniques toward more low-skill jobs anyway may take advantage of the credit more than other firms, even though the credit has no effect on their employment decisions. This reverse effect is eliminated by using an "instrument' for the TJTC variable in the employment equation, which is obtained by predicting TJTC use based on variables excluding employment.

the share of youth employment was at least 6 percent higher in firms that used the TJTC over the survey period, relative to firms that made no use of the credit. If there was no net new employment generated by the credit, however, youth employment gains were at the expense of other workers. Even if displacement of other workers was substantial, though, the credit could be beneficial by reducing the concentration of unemployment.

CHAPTER IV. EFFECTS OF THE TJTC ON THE YOUTH TARGET GROUP

Of the nine groups eligible for the TJTC, the largest is economically disadvantaged youth age 18 to 24. This chapter assesses the effects that the TJTC has on employment for this group, after first comparing youth who get TJTC jobs to other poor youth and TJTC-subsidized jobs to other jobs held by youth. 1/

CHARACTERISTICS OF TJTC YOUTH

Youth who get private-sector jobs subsidized by the TJTC are, on average, less disadvantaged than youth in other federal employment programs who, in turn, tend to be less disadvantaged than poor youth who do not participate in any federal employment and training program. TJTC youth are more likely to be white and less likely to be high school dropouts than other poor youth. They are also less likely than participants in employment programs to be currently attending school (see Table 6).

It is expected that TJTC youth would be less disadvantaged than youth in CETA programs, since TJTC youth should be job-ready while CETA programs are intended to provide remedial education and training for youth

1. Only the youth target group is examined, since data are lacking for the other groups.

TABLE 6. CHARACTERISTICS OF TJTC, CETA, AND OTHER LOW-INCOME YOUTH, 1981

	TJTC Participants	CETA Participants	Other Low-Income Youth
Percent Male	60	59	45
Percent Nonwhite	24	39	35
Percent High School Dropouts	6	12	31
Percent Enrolled			
High School	4	17	7
College	20	27	18
Average Age	21	20	21
Average Grade Completed	12	12	11

SOURCE: 1982 National Longitudinal Survey of Youth.

who are not ready to compete in the job market. It is less clear why those who are not served by any government program are the most disadvantaged, although this may indicate that federal employment and training programs "cream" from the eligible population--that is, select those with the fewest disadvantages.

CHARACTERISTICS OF TJTC JOBS

The jobs obtained by youth subsidized by the TJTC in 1981 were more likely to be service jobs, and lower paid, than jobs held by other youth. The

average wage was close to the federal minimum of $3.35, and job duration was 3.5 months, on average. Jobs held by non-poor youth paid nearly $5.00 an hour and lasted 4.4 months, on average. Further, non-poor youth were less concentrated in service, sales, and clerical jobs (see Table 7).

TABLE 7. CHARACTERISTICS OF JOBS HELD BY YOUTH, 1981

	TJTC Youth	Other Low-Income Youth	Non-Poor Youth
Average Hourly Wage (in dollars) a/	2.82	3.84	4.82
Average Hours/Week	37	37	39
Average Job Duration (in months)	3.5	3.8	4.4
Occupational Distribution (in percents)			
Service workers	43	23	24
Sales	20	5	6
Clerical	20	16	20
Operatives/craftsman	9	23	29
Laborers	8	23	15
Prof/managerial	0	10	6

SOURCE: National Longitudinal Survey of Youth, 1982.

a. Wage reporting in this survey is subject to large errors. TJTC administrative data indicate that 8 percent of TJTC jobs were paid less than the federal minimum wage in 1981, and 65 percent were paid at the federal minimum or just above.

EMPLOYMENT EFFECTS

Findings from the Employer Survey, discussed in Chapter II, indicated that the credit tilted employers' hiring toward youth. This provides some evidence that the credit has the intended effect, but the findings must be viewed as tentative because there was no employment information specifically for the TJTC target group. Further, even if these findings are indicative of the credit's effects for target youth, results from the Employer Survey require replication from other data sources before they can be considered conclusive. This section discusses results from sources that permit identification of target group members.

CBO estimates using data from the Current Population Survey show that the TJTC may increase employment for TJTC-eligible youth, without adversely affecting employment rates for other youth. Results were obtained by estimating an equation that predicts the probability of employment for youth, with the intensity of TJTC vouchering activity by the state as one of the explanatory variables. Estimates for 1983 showed that more vouchering activity, relative to the size of the eligible population in the state, was associated with an increased probability of employment for disadvantaged youth in the state but had no significant effect on the probability of employment for other youth. Estimates for 1982, however, showed no significant impact on employment for either group from TJTC vouchering (see Appendix B).

The greater estimated effect for 1983 is perhaps accounted for by two factors--the economic recovery and more vigorous promotional activity by the Employment Service in 1983. It is also possible, however, that the introduction in 1983 of an allocation formula for TJTC administrative funds based on the number of TJTC certifications issued induced Job Service personnel to encourage employers to certify more of the TJTC-eligible workers they hired even though the credit was not a factor in the hiring decision. Hence, these results are consistent with a range of hypotheses about the effect of the TJTC on target youth employment--from no effect to a very substantial effect relative to the level of vouchering activity.

Findings from a demonstration program for TJTC-eligible youth indicated that the credit helped to place youth in jobs. Although it is not possible to separate entirely the effects of the tax credit from other features of this demonstration, including pre-screening of applicants and job development efforts, these are additional features that Job Service personnel could provide. The program succeeded in increasing employment rates for participants relative to a comparison group, and more than half of the employers who hired a youth participant said that anticipated savings due to the TJTC were a factor in their decision to hire. Pre-screening by the Job Service was more important than savings from the tax credit,

though, since 90 percent of employers who hired a participant cited that as a factor in their decision. 2/

On the other hand, results from two controlled experiments with the TJTC, done in 1980 and 1981, found that AFDC and general assistance recipients who were taught to advertise their eligibility for a tax credit were less likely to get jobs than similar job applicants who did not mention their eligibility to prospective employers. 3/ One reason for this might be that the applicants were not able to explain the benefits of the tax credit effectively. Or, the knowledge that they were welfare recipients might have caused employers to lower their assessment of job-seekers by more than the value of the tax credit. Due to premature termination of one experiment and to methodological flaws in the other, the findings from these experiments are not conclusive even for the public assistance groups served, though. 4/ Further, is it not clear that findings for public assistance

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2. See Public/Private Ventures, "Reducing the Costs of Labor Market Transactions for Private Sector Employers and Disadvantaged Youth," December 1982.

3. See Gary Burtless and John Cheston, "The Montgomery County (Dayton) Ohio Wage-Subsidy Voucher Experiment: Initial Findings," U.S. Department of Labor, Office of the Assistant Secretary for Policy, Evaluation, and Research (July 1981). Also see Jean Badeau and others, "Jobs Tax Credits--The Report of the Wage Bill Subsidy Research Project, Phase II," Wisconsin Department of Health and Social Services and Institute for Research on Poverty (January 1982).

4. These findings are contradicted by employer responses to a survey conducted in 1983, in which it was determined that knowledge

recipients will also apply to the youth target group, who do not necessarily carry the stigma of being welfare recipients.

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4. (Continued)
(provided on job applicant forms) that applicants were eligible for the TJTC increased employers' assessment of the desirability of hiring them for clerical positions, and had no significant effect on employers' assessments for other jobs. But employers in this survey may have been responding on the basis of their experience with cooperative education students, who are no longer eligible unless they are disadvantaged.

APPENDIX A. EMPLOYER SURVEY: DATA AND METHODOLOGY

A size-stratified random sample of for-profit firms in 28 sites around the country was interviewed in early 1980, and reinterviewed in early 1982. The sites chosen for the survey included both urban and rural regions from all areas of the country except the northeast (see Table A-1).

There were 5,301 respondents to the first interview and 3,710 respondents to the second interview--a 70 percent response rate to the reinterview. After adjusting respondent weights to reflect differences in response rates among sites and firm-size strata, comparison of weighted versus unweighted counts of firms that used the TJTC indicates that TJTC users were more likely to respond to the reinterview survey than non-users (see Table A-2). This should have little effect on behavioral estimates obtained from regression analysis, though, since nonusers are well represented in the sample and there is no reason to believe that nonusers who responded were systematically different from those who did not.

Regression equations were estimated in order first to identify the determinants of TJTC use and then to measure the effect of TJTC use on the share of employment going to youth (under age 25) and on total employment in the firm. The share of employment going to youth was used

TABLE A-1. GEOGRAPHIC COVERAGE OF THE EMPLOYER SURVEY

Site	Total Private Employment in Site (1980)	Counties
Alabama		
Mobile	115,738	Baldwin, Mobile, Escambia (in Florida)
Birmingham	271,202	Jefferson, Shelby, Walker
Colorado		
Weld County	25,207	Weld
Alamosa County	20,000	Alamosa
Logan, El Paso Counties	37,348	Logan, El Paso
Florida		
Pensacola	77,684	Escambia, Okaloosa, Santa Rosa
Kentucky		
Pike County	15,645	Pike
Harlan County	8,382	Harlan
Louisiana		
Baton Rouge	104,299	East Baton Rouge Parish
Lake Charles	87,457	Calcasieu Parish, Lafayette Parish
New Orleans	211,892	Orleans Parish
Missouri		
Central Missouri	30,067	Carroll, Chariton, Johnson, Lafayette, Pettis, Saline
South Missouri	38,165	Bolinger, Cape Girardeau, Iron, Perry, St. Francis, Ste. Genevieve
Northwest Missouri	39,847	Buchanan, Caldwell, Clinton, Daviess, Grundy, Livingston
Ohio		
Columbus	303,325	Franklin
Cincinnati	402,091	Hamilton
Toledo	171,451	Lucas
Dayton	250,000	Montgomery

TABLE A-1. (Continued)

Site	Total Private Employment in Site (1980)	Counties
Texas		
Beaumont-Port Arthur	114,064	Hardin, Jefferson, Orange
Corpus Christi	103,532	Arkansas, Bee, Brooks, Duval, Jim Wells, Kenedy, Kleberg, Live Oak, McMullen, Nueces, San Patricio
San Antonio	288,855	Bexar, Comal, DeWitt, Gonzalez, Guadalupe, Karnes, Victoria, Wilson
Virginia		
Buchanan, Dickenson Counties	14,861	Buchanan, Dickenson
Washington		
Southwest Washington	43,216	Cowlitz, Grays Harbor, Pacific, Wahkiakum
Skagit, Whatcom Counties	36,959	Skagit, Whatcom
Olympic Peninsula	20,453	Jefferson, Lewis, Mason, Skamania
Wisconsin		
Marathon County	30,978	Marathon
Outagamie County	43,113	Outagamie
Winnebago County	45,313	Winnebago

SOURCE: John Bishop, ed., Subsidizing On-the-Job Training: An Analysis of a National Survey of Employers, National Center for Research in Vocational Education, and Institute for Research on Poverty (1982), p. 18.

TABLE A-2. ESTIMATED USE OF THE TJTC BY SURVEY RESPONDENTS AND BY ALL EMPLOYERS IN THE SURVEY SITES, 1982

Type of Employer	Percent of Respondents That Used the TJTC	Estimated Percent of Firms in Survey Sites That Used the TJTC a/
By Number of Employees		
4 or less	11	4
5-19	16	10
20-49	22	12
50-199	31	21
200 or more	45	44
By Industry		
Agriculture	0	0
Mining	10	2
Construction	17	8
Manufacturing	28	13
Transport/Utilities	16	6
Wholesale/Retail Trade	20	11
Finance	18	5
Other Services	23	10
All Employers	21	10

SOURCE: 1982 Employer Survey.

a. Responses are weighted to reflect the probability of inclusion in the sample to obtain these estimates.

as a measure of the effect of the TJTC on shifting employers' hiring toward targeted groups since the largest target group is disadvantaged youth under age 25.

Determinants of TJTC Use

A logistic regression equation was estimated, in which the variable to be explained was whether or not the firm had claimed a tax credit for targeted workers hired during 1980 or 1981. One set of explanatory variables identified TJTC outreach efforts made toward employers. Other explanatory variables included firm employment characteristics, attitudes of the employer, industry and regional identifiers, and the local unemployment rate.

TJTC program outreach efforts were significant determinants of TJTC use by employers (see Table A-3). The probability of use was higher by 21 percentage points among firms that were contacted by the Job Service or some other agent to inform them about the TJTC, compared to firms that had no formal contact. The probability of use was higher by 32 percentage points for firms that were contacted and also asked to accept referrals of eligible workers, relative to firms with no formal contact. 1/

In addition, use of the TJTC was more likely for larger firms, and for firms with a larger proportion of the work force under age 25 at the start of the survey period. Employment growth was positively, but weakly, related

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1. The change in the probability of TJTC use was calculated as the difference in the value of the logistic equation evaluated first with the outreach variables set to one and then set to zero.

to TJTC use. 2/ Employers who had demonstrated a willingness to fire unsatisfactory employees were more likely to use the credit, as were employers whose attitudes toward government programs were favorable. The probability of use was highest for firms in the service or wholesale and retail trade industries, after controlling for other factors. Use was not related to local unemployment rates, nor did it vary significantly by region when other factors were held constant (see Table A-3).

Effects on Employment

Least squares regression equations were estimated for the percent of firm employment in 1982 that was under age 25, for the ratio of youth employment for 1982 relative to 1980, for average total employment in 1981, and for the ratio of total employment for 1981 relative to 1980. The explanatory variable of primary interest was whether the firm had used the TJTC during the survey period. Estimates for the effect of TJTC use on employment were obtained first using the actual incidence of TJTC use (ordinary least squares) and then using predicted TJTC use (two-stage least squares). The two-stage least squares estimates were intended to eliminate any bias in the estimated coefficients that would result if some of the

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2. Although a two-way causal relationship between TJTC use and employment growth is posited by the equations specified in Tables A-3 and A-7, no attempt to get two-stage least square estimates for the coefficient of employment growth was made since the best equation for employment growth explained only 2 percent of its variation in the sample.

TABLE A-3. DETERMINANTS OF TJTC USE BY FIRMS FOR 1980 AND 1981

Explanatory Variables	Estimated Coefficients (and Standard Errors)
Intercept	-5.412 (0.736)
Firm Characteristics:	
Employment growth (ratio of 1981 over 1980)	0.227 (0.144)
Log firm size (1980)	0.222 (0.047)*
Percent of workers who are under 25 (1980)	0.008 (0.003)*
Firing flexibility (0,1)	0.401 (0.144)*
Employer Attitude to Government Programs (0,1) a/	
Favorable	0.468 (0.225)*
Unfavorable	-0.108 (0.134)
Outreach (0,1) b/	
Informed of the program	2.123 (0.145)*
Asked to accept eligible referrals	0.555 (0.134)*
Local Unemployment Rate (average for 1980 and 1981)	-0.004 (0.055)
Industry (0,1) c/	
Construction	0.568 (0.594)
Manufacturing	0.709 (0.534)
Transport/Utilities	0.436 (0.628)
Wholesale/Retail Trade	1.056 (0.521)*
Finance	0.851 (0.568)
Other Services	1.129 (0.526)*
Region (0,1) d/	
South	0.035 (0.142)
West	-0.079 (0.182)
R^2	.24
Sample Size	2,955

TABLE A-3. FOOTNOTES

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* Significant at .05 for a two-tailed test.

NOTE: The estimated coefficients were obtained from a logistic regression.

a. The reference group is employers who expressed no strong opinion.

b. The reference group is firms who had no formal contact concerning the tax credit.

c. The reference industries are agriculture and mining.

d. The reference region is the North Central states.

correlation between TJTC use and the employment measure was due to the greater likelihood that rapidly growing firms or firms that were altering their production techniques to use lower-skill labor anyway would find it advantageous to use the TJTC even though it did not influence their hiring decisions.

The estimates show that the share of employment that was under age 25 was at least 6 percent higher in firms that had used the TJTC over the survey period, relative to similar firms that did not use the credit. 3/ This result emerges both from the equation in which the variable to be explained is the percent of youth employment (Table A-4) and from the equation in which the variable to be explained is the change in the percent

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3. The share of youth employment actually dropped by 7 percent, on average, over the survey period. It dropped only 2 percent in firms that used the TJTC, compared to a drop of 8 percent in firms that did not use the credit.

TABLE A-4. EFFECT OF THE TJTC ON THE PERCENT OF FIRM EMPLOYMENT THAT IS UNDER AGE 25 IN 1982

Explanatory Variables	Estimated Coefficients (and Standard Errors) Ordinary Least Squares Regression	Two-Stage Least Squares Regression a/
Intercept	3.679 (2.655)	3.803 (2.656)
TJTC Use in 1980 or 1981 (0,1) b/	1.969 (0.669)*	3.814 (1.680)*
Employment Growth (ratio of 1981 over 1980)	3.875 (0.726)*	3.851 (0.726)*
Local Unemployment Rate (average for 1980 and 1981)	-0.533 (0.224)*	-0.554 (0.224)*
Percent Employment Under 25 in 1980	0.831 (0.010)*	0.830 (0.010)*
Industry (0,1) c/		
Construction	-3.834 (2.002)	-3.797 (2.003)
Manufacturing	-1.366 (1.912)	-1.484 (1.918)
Transport/Utilities	-0.026 (2.196)	-0.076 (2.197)
Wholesale/Retail Trade	0.299 (1.800)	0.283 (1.802)
Finance	-1.773 (2.011)	-1.820 (2.013)
Other Services	-1.312 (1.827)	-1.307 (1.829)
Region (0,1) d/		
South	0.012 (0.585)	-0.037 (0.585)
West	-0.613 (0.746)	-0.677 (0.746)
R^2	.68	.68
Sample Size	3,172	3,172

* Significant at .05 for a two-tailed test.

TABLE A-4. FOOTNOTES

a. A predicted value is used for TJTC use in 1980 or 1981, calculated from a preliminary regression of TJTC use on exogenous determinants.

b. The mean of youth employment in the sample was 26.84. At the mean, the ordinary least squares results imply that youth employment was 1.969 percentage points--or 7 percent--higher in firms that used the TJTC relative to those that did not use it. The two-stage least squares results indicate that youth employment was 3.814 percentage points--or 14 percent--higher.

c. The reference industries are agriculture and mining.

d. The reference region is the North Central states.

of youth employment from 1980 to 1982 (Table A-5). When a predicted value for TJTC use was substituted in the estimating equation to eliminate possible biases from reverse causation (the two-stage least squares regression technique), the estimated effect of TJTC use on youth employment increased in size and significance, indicating that the estimated effect of TJTC use on youth employment is not just due to simultaneous-equations bias. Although the two-stage least squares estimates indicate that youth employment may be from 14 to 20 percent higher in firms that used the TJTC over the survey period, confidence in these estimates is low since the estimating equation used to obtain a predicted value for TJTC use explains only 21 percent of its variation.

TABLE A-5. EFFECT OF THE TJTC ON THE CHANGE IN THE PERCENT OF FIRM EMPLOYMENT THAT IS UNDER AGE 25 IN 1982

Explanatory Variables	Estimated Coefficients (and Standard Errors) Ordinary Least Squares Regression	Two-Stage Least Squares Regression a/
Intercept	1.111 (0.145)	1.110 (0.145)
TJTC Use in 1980 or 1981 (0,1)	0.062 (0.037)	0.205 (0.092)*
Employment Growth (ratio of 1981 over 1980)	0.148 (0.040)*	0.147 (0.040)*
Local Unemployment Rate (average for 1980 and 1981)	-0.030 (0.013)*	-0.032 (0.013)*
Industry (0,1) b/		
Construction	-0.173 (0.108)	-0.175 (0.108)
Manufacturing	-0.106 (0.102)	-0.118 (0.103)
Transport/Utilities	-0.118 (0.122)	-0.122 (0.122)
Wholesale/Retail Trade	-0.082 (0.097)	-0.088 (0.097)
Finance	-0.158 (0.111)	-0.167 (0.111)
Other Services	-0.052 (0.099)	-0.058 (0.099)
Region (0,1) c/		
South	-0.036 (0.033)	-0.037 (0.033)
West	-0.027 (0.042)	-0.028 (0.042)
R^2	.01	.01
Sample Size	2,653	2,653

* Significant at .05 for a two-tailed test.

a. A predicted value is used for TJTC use in 1980 or 1981, calculated from a preliminary regression of TJTC use on exogenous determinants.

b. The reference industries are agriculture and mining.

c. The reference region is the North Central states.

There was no consistent evidence that TJTC use induced net new employment overall, however. Total employment grew by 2 percent, on average, over the survey period both in firms that used the TJTC and those that did not. Using the level of employment as the dependent variable, regression estimates imply that employment was about 3 percent higher, at the mean, in firms that used the TJTC over the survey period compared to similar firms not using the credit. When a predicted value for TJTC use was substituted, the estimated effect increased to about 12 percent (Table A-6). When change in employment was the dependent variable, though, the effect of TJTC use on employment was small and nonsignificant (Table A-7).

In summary, findings from this survey indicate that firms using the credit shifted hiring toward youth, relative to firms that did not use the credit, but clear evidence for net new employment is lacking. Further, there is no way from this survey to assess the effects of the TJTC on aggregate (economy-wide) target group employment or on overall employment. It is possible that the credit just shifted the site of youth employment from other firms to those that used the credit, but the results reported in Appendix B make that seem unlikely.

TABLE A-6. EFFECT OF THE TJTC ON TOTAL FIRM EMPLOYMENT FOR 1981

Explanatory Variables	Estimated Coefficients (and Standard Errors) Ordinary Least Squares Regression	Two-Stage Least Squares Regression a/
Intercept	5.844 (3.455)	5.817 (3.452)
TJTC Use in 1980 or 1981 (0,1) b/	1.940 (0.907)*	7.523 (2.345)*
Sales Growth (1980 to 1982)	4.171 (0.710)*	4.038 (0.712)*
Local Unemployment Rate (average for 1980 and 1981)	-0.645 (0.304)*	-0.686 (0.304)*
Firm Employment for 1980	0.980 (0.002)*	0.979 (0.002)*
Industry (0,1) c/		
Construction	-4.571 (2.723)	-4.509 (2.720)
Manufacturing	-3.854 (2.605)	-4.235 (2.608)
Transport/Utilities	1.335 (2.987)	1.304 (2.984)
Wholesale/Retail Trade	-2.273 (2.452)	-2.441 (2.450)
Finance	-0.008 (2.786)	-0.132 (2.784)
Other Services	-1.955 (2.491)	-2.100 (2.489)
Region (0,1) d/		
South	0.427 (0.800)	0.410 (0.799)
West	-0.120 (1.024)	-0.168 (1.023)
R^2	.99	.99
Sample Size	3,201	3,201

* Significant at .05 for a two-tailed test.

a. A predicted value is used for TJTC use in 1980 or 1981, calculated from a preliminary regression of TJTC use on exogenous determinants.

b. The mean of total employment in the sample was 60.2. At the mean, the ordinary least square results imply that employment was higher by 1.9 employees--or 3 percent--in firms that used the TJTC relative to those that did not use it. The two-stage least squares results indicate that employment was higher by 7.5 employees--or 12 percent.

c. The reference industries are agriculture and mining.

d. The reference region is the North Central states.

TABLE A-7. EFFECT OF THE TJTC ON THE CHANGE IN TOTAL FIRM EMPLOYMENT

Explanatory Variables	Estimated Coefficients (and Standard Errors)	
	Ordinary Least Squares Regression	Two-Stage Least Squares Regression a/
Intercept	0.974 (0.062)	0.973 (0.062)
TJTC Use in 1980 or 1981 (0,1)	-0.007 (0.016)	0.026 (0.041)
Sales Growth (1980 to 1982)	0.084 (0.013)*	0.083 (0.013)*
Local Unemployment Rate (average for 1980 and 1981)	0.004 (0.005)	0.003 (0.005)
Industry (0,1) b/		
Construction	0.003 (0.049)	0.002 (0.049)
Manufacturing	-0.033 (0.047)	-0.037 (0.047)
Transport/Utilities	-0.033 (0.054)	-0.034 (0.054)
Wholesale/Retail Trade	-0.037 (0.044)	-0.039 (0.044)
Finance	-0.014 (0.050)	-0.015 (0.050)
Other Services	-0.021 (0.045)	-0.023 (0.045)
Region (0,1) c/		
South	0.030 (0.014)*	0.030 (0.014)*
West	-0.016 (0.018)	-0.016 (0.018)
R^2	.02	.02
Sample Size	3,193	3,193

* Significant at .05 for a two-tailed test.

a. A predicted value is used for TJTC use in 1980 or 1981, calculated from a preliminary regression of TJTC use on exogenous determinants.

b. The reference industries are agriculture and mining.

c. The reference region is the North Central states.

APPENDIX B. CURRENT POPULATION SURVEY: DATA AND METHODOLOGY

A subsample composed of all youth age 18 to 24 was selected from the March 1983 Current Population Survey (CPS). This subsample was divided into two groups--those whose family income for 1982 would have made them eligible for the TJTC, and other, higher-income youth. 1/

Logistic regression equations were estimated, separately for each of these two groups, in which the variable to be explained was the incidence of employment for individuals either sometime during 1982 or during the survey week in March 1983. A measure of TJTC program activity was included as one of the explanatory variables. The measure used was the voucher rate, defined as the ratio of vouchers issued for youth age 18 to 24 over the size of that target population in each state. Other explanatory variables included state-level measures for labor market conditions and Job Service activity as well as individual demographic variables.

The voucher rate was not significantly related to employment rates during 1982, either for the TJTC-eligible group of youth or for other youth

1. Eligibility determination was based on annual family income for 1982, although in practice TJTC eligibility is based on family income for the six months prior to application. As a result, some of the youth classified as ineligible could have been eligible for the TJTC sometime during the year.

(see Table B-1). It was significantly related to employment for the TJTC-eligible group--but not for other youth--during the survey week in March 1983, though (see Table B-2). 2/ The results for March 1983 apparently indicate that the TJTC increased the probability of employment for eligible youth without adversely affecting employment prospects for other youth. It is not clear, however, why the effect exists for employment during the survey week but not for the previous year, although there are two factors that might account for this. One is that employment was declining throughout most of 1982, but began to recover at the end of the year, increasing the prospects for positive effects from TJTC program activity. A second factor is that the U.S. Employment Service began to encourage local Job Service offices to implement the TJTC more vigorously beginning in 1983.

The estimates for March 1983 imply that each additional voucher was associated with about 0.4 additional jobs for TJTC-eligible youth. 3/ Since 45 percent of vouchers reflected certified jobs in 1983, the most sanguine interpretation of these results would be that nearly all TJTC-certified jobs

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2. The results for 1983 are robust, in that they emerge in a variety of specifications for the equation. These include restricting the sample to those who had no employment during 1982, or using the data on individuals to construct employment rates by state and using the voucher rate and other state-specific variables to predict the employment rate.

3. An increase in the annual voucher rate of 1 percentage point increases the estimated probability of employment for TJTC-eligible youth by 0.41 percentage points.

TABLE B-1. LOGISTIC REGRESSION EQUATIONS ESTIMATING THE INCIDENCE OF EMPLOYMENT IN 1982

Explanatory Variables	Estimated Coefficients (and Standard Errors) Low-Income Youth	All Other Youth
Intercept	-2.14 (0.78)	-0.60 (0.50)
State-Specific Variables:		
Annual voucher rate (82)	-1.04 (1.06)	-0.50 (0.63)
Job service activity (82)	4.22 (1.19)*	1.39 (0.77)
Industry mix (82)	3.60 (1.17)*	0.65 (0.71)
Unemployment rate (82)	-0.04 (0.02)*	-0.06 (0.01)*
Person-Specific Variables:		
Age (In years)	-0.02 (0.02)	0.04 (0.01)*
Black (0,1)	-0.64 (0.09)*	-0.91 (0.08)*
Other nonwhite (0,1)	-0.87 (0.16)*	-0.84 (0.12)*
Family status (0,1)--Male, Married, with children (Y or N): a/		
NNN	-0.48 (0.09)*	-0.18 (0.06)*
NNY	-1.27 (0.17)*	-1.59 (0.15)*
NYN	-1.30 (0.12)*	-1.25 (0.07)*
NYY	-1.78 (0.38)*	-1.86 (0.22)*
YNY	1.42 (1.11)	0.04 (0.76)
YYN	0.95 (0.18)*	1.38 (0.20)*
YYY	1.28 (0.65)*	0.29 (0.48)
Education (In years)	0.15 (0.02)*	0.21 (0.01)*
Enrolled (0,1)	-0.57 (0.09)*	-1.44 (0.06)*
Central City (0,1)	-0.19 (0.09)*	-0.25 (0.06)
Non-SMSA (0,1)	0.20 (0.10)	-0.11 (0.06)
R^2	.10	.13
Sample Size	3,579	15,613

* Significant at .05 on a 2-tailed test.

a. The reference group is YNN--male, unmarried, and no children.

TABLE B-2. LOGISTIC REGRESSION EQUATIONS ESTIMATING THE INCIDENCE OF EMPLOYMENT IN MARCH 1983

Explanatory Variables	Estimated Coefficients (and Standard Errors) Low-Income Youth	All Other Youth
Intercept	-2.40 (0.78)	-1.23 (0.38)
State-Specific Variables:		
Annualized voucher rate (83)	1.92 (0.69)*	0.39 (0.32)
Job service activity (83)	1.47 (1.06)	0.13 (0.52)
Industry mix (82)	0.54 (1.16)	0.28 (0.53)
Unemployment rate (83)	-0.06 (0.02)*	-0.04 (0.01)*
Person-Specific Variables:		
Age (In years)	-0.00 (0.02)	0.03 (0.01)*
Black (0,1)	-0.81 (0.11)*	-0.72 (0.07)*
Other nonwhite (0,1)	-0.82 (0.18)*	-0.56 (0.11)*
Family status (0,1)--Male, Married, with children (Y or N): a/		
NNN	-0.19 (0.09)*	0.29 (0.05)*
NNY	-0.99 (0.20)*	-1.07 (0.15)*
NYN	-1.19 (0.13)*	-0.79 (0.05)*
NYY	-1.97 (0.54)*	-1.67 (0.23)*
YNY	-0.04 (0.88)	-0.48 (0.49)
YYN	0.87 (0.15)*	0.75 (0.09)*
YYY	0.44 (0.47)	-0.29 (0.28)
Education (In years)	0.21 (0.02)*	0.17 (0.01)*
Enrolled (0,1)	-1.32 (0.11)*	-2.10 (0.05)*
Central City (0,1)	-0.22 (0.10)*	0.06 (0.05)
Non-SMSA (0,1)	-0.04 (0.10)	-0.18 (0.05)*
R^2	.12	.17
Sample Size	3,579	15,613

* Significant at .05 on a 2-tailed test.

a. The reference group is YNN--male, unmarried, and no children.

were additional jobs for target youth. Employment among eligible youth did not necessarily increase by this full amount, though, since some of the association could be due to greater efforts by Job Service personnel to certify workers that employers would have hired anyway. Job Service personnel had no incentive to do this in 1982, but did in 1983 due to the introduction of an allocation formula for TJTC administrative funds based on the number of TJTC certifications they issued. Consequently, these results are consistent with a range of hypotheses about how effective the TJTC was at increasing the employment prospects of youth who were eligible for the credit--from no effect, so that the credit was a windfall benefit to employers, to a very substantial effect. Neither extreme seems likely, though.

In sum, the TJTC probably resulted in some increased employment for eligible youth in 1983, but the amount is uncertain. Further, it seems clear that employment gains for eligible youth did not come at the expense of nonpoor youth, perhaps because employers structured their hiring practices to favor youth in general in order to increase their chances of obtaining TJTC-eligible workers. If no net new employment was generated by the credit, though, employment gains for youth were at the expense of adult workers.