
Evaluating Retraining Programs in OECD Countries: Lessons Learned

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Are retraining programs for the unemployed more effective than job search assistance? Governments of the member countries of the Organisation for Economic Co-operation and Development have considerable experience with retraining programs in a variety of industrial settings. Evaluations of these programs show that the results are disappointing, however. This article discusses the factors associated with retraining programs for two types of workers: those laid off en masse and the long-term unemployed. Evaluations indicate poor results for both groups: retraining programs are generally no more effective than job search assistance in increasing either reemployment probabilities or postintervention earnings, and they are between two and four times more expensive than job search assistance.

Industrial countries spend sizable amounts on labor programs for the unemployed. In 1992 member countries of the Organisation for Economic Co-operation and Development (OECD) spent between 0.1 percent (Japan) and 2.6 percent (Sweden) of gross domestic product on labor programs. In several countries this training is “the largest category of active programs, and is often perceived as the principal alternative to regular unemployment benefits” (OECD 1994a). Countries in Eastern Europe—where the role of active labor programs is a topic of current debate—also spent between 0.2 and 3 percent of gross domestic product on these programs (OECD 1994a). Yet possibly because such assistance is viewed almost as a fundamental right in Western Europe, these programs are rarely evaluated outside the United States. This article surveys evaluations of retraining programs in the OECD countries, highlighting the shortcomings of such schemes and illustrating the payoff to investing in rigorous evaluations.

We examine only the evaluations of retraining programs, so our focus is largely on adults with previous work experience rather than on unemployed school-leavers. We distinguish here between retraining schemes for workers displaced by plant closures

or restructuring and programs aimed at the long-term unemployed. These groups differ in important ways. First, the long-term unemployed are a relatively heterogeneous group of individuals compared with those laid off en masse from a single plant or firm. Second, although some programs are targeted at specific regions, the long-term unemployed are generally more dispersed geographically. Third, the duration of unemployment is, almost by definition, greater for the long-term unemployed. Finally, retraining programs for the long-term unemployed are generally a mix of classroom and in-plant training, while programs for displaced workers are usually confined to the classroom.

Evaluation Techniques

Techniques for evaluating the effectiveness of retraining programs can be broadly classified into two categories: scientific and nonscientific. Scientific evaluations can be further divided into experimental and quasi-experimental. Experimental, or classically designed, evaluations require selecting “treatment” and “control” groups before the intervention: the treatment group receives the assistance, and the control group does not. If large numbers of individuals are randomly assigned to each group, the average characteristics of the two groups should not differ significantly, so any difference in outcomes can be attributed to program participation. In quasi-experimental studies treatment and control groups are selected after the intervention. To compute the program’s effects, statistical techniques are used to correct for differences in characteristics between the two groups. Nonscientific techniques do not use control groups to evaluate the effect of interventions but instead rely on statistics compiled by a program’s administrators. These evaluations are of little use; without a control group, it is difficult to attribute the success or failure of the participants to the intervention, because the changes in individuals’ behavior might have resulted from other factors, such as worker-specific attributes or economywide changes (Grossman 1994).

Classically Designed (Randomized) Experiments

This technique, which was originally developed to test drug effectiveness, identifies and randomly assigns individuals to either a treatment or a control group before the intervention. Its main appeal lies in the simplicity of interpreting results—the effectiveness of the program is computed as the simple difference in the outcome between the participants in the treatment group and the nonparticipants in the control group (Newman, Rawlings, and Gertler 1994). The main pitfalls of this method are a failure to select individuals through random assignment, changes in behavior as a result of their assignment to either group (for instance, enrolling in private programs or intensi-

fyng their job search), high costs because of the number of participants in the sample, and ethical questions about excluding a group of people from the intervention.

Although randomization is thought to eliminate selection bias in determining who will participate, proponents of this methodology make an important assumption: that random assignment does not alter the behavior that is being studied. This may not be the case and, in fact, the bias may be quite strong (Heckman 1992). For example, ambitious individuals who would have taken a training course in any case will not apply to the program if they stand a chance of being in the nontreatment group. Such individuals, who might have enrolled in a nonrandomized regime, may make plans anticipating enrollment in a training program. With randomization they may alter their decision to apply or undertake activities complementary to training. Thus risk-averse persons will tend to be eliminated from the program.

Quasi-Experimental Techniques

In quasi-experimental methods the treatment and control groups are selected *after* the intervention. Econometric techniques are used to correct for the differences in characteristics between the two groups. The main appeal of this method lies in its relatively low cost and the ability to undertake the evaluation at any time. The main drawback is that these techniques—if done properly—are statistically complex. The techniques used to adjust for differences in *observable* attributes (for example, sex, age, region of residence, education) are relatively straightforward but subject to specification errors; correcting for *unobservable* characteristics (for example, motivation, family connections) requires a convoluted procedure that can yield wildly different results. Quasi-experimental evaluations fall into three types: regression adjusted for observable characteristics; regression adjusted for observable and unobservable characteristics (selectivity corrected); and matched pairs.

REGRESSION ADJUSTED FOR OBSERVED CHARACTERISTICS. This technique is used to assess the impact of participation in a program when the observable characteristics of the participants and the comparison group are different. This method is appropriate for estimating the effect of a program when the difference between participants and nonparticipants can be explained by these observable characteristics. For example, if better-educated workers are more successful in finding work regardless of whether or not they had special training, then controlling for the effect of education (using regression techniques) will provide more reliable estimates than would a simple comparison of the reemployment probabilities of the control and treatment groups.

REGRESSION ADJUSTED FOR OBSERVED AND UNOBSERVED VARIABLES (SELECTIVITY CORRECTED). When selection into programs is not random, and participation in a program is due to both observable and unobservable characteristics, the above tech-

nique, which corrects for observed characteristics, is likely to be biased. Even if participants and nonparticipants have similar observable characteristics, unobservable characteristics (such as innate ability) would lead to incorrect inferences about nonparticipants. This technique uses a method developed by Heckman (1979) called “sample selectivity correction” to try to control for these unobservables.

MATCHED PAIRS. Because the observed characteristics of individuals in the control and treatment groups are bound to be different to some degree, these groups are likely to have different success rates in finding employment even in the absence of active labor market programs. To control for these differences, synthetic control groups are constructed using a matched pairs approach. The synthetic control group, which is a subset of the entire control group, is composed of individuals whose observable characteristics most closely match those of the treatment group.

Relative Strengths of Techniques

Estimating the effect of an employment program on the earnings of trainees, using randomized and quasi-experimental techniques, LaLonde (1986) found that randomized experiments yielded results significantly different from those that relied on quasi-experimental techniques. Policymakers should be aware that available nonexperimental evaluations of training programs may contain large biases. While randomized experimentation is theoretically the best technique to estimate the effects of interventions, quasi-experimental techniques may be superior in practice.

The main weakness of randomized experiments is their inability to ensure that individuals in the control group do not alter their behavior in a way that contaminates the experiment. For example, individuals denied public job training might enroll in private programs, which would bias the results of any evaluation of public programs.¹ It may also be difficult to ensure that assignment is truly random. For example, applicants may be selected into the program because of nepotism, or program administrators may deliberately exclude high-risk applicants to achieve results that reflect well on the program. A third problem concerns ethical questions about treating individuals as subjects in an experiment. Finally, experimental evaluations are possible only for future programs, because the control and treatment groups have to be selected before the program is initiated.

Using the dual criteria of rigor and feasibility then, randomized experiments are not necessarily superior to quasi-experimental techniques. Because the decision to evaluate labor market programs often occurs after the programs are in place and because the costs of setting up the experiments are high, randomized evaluations should perhaps be the last alternative. Within quasi-experimental techniques, selectivity correction may not add much, especially when information is available for a considerable number of observable individual and labor-market characteristics (such

as education, age, sex, household wealth, and region of residence). In addition to being cumbersome and somewhat counterintuitive, this method often gives arbitrary results depending on the selectivity-correction specification that is used.

This leaves the matched pairs and regression-adjusted techniques. Of the two, the matched pairs technique is preferred because the procedure is less arbitrary. Because the observed differences between the treatment and comparison group are minimized, the exact specification of the model becomes less important. And because the program measures the simple difference in the variables that policymakers want answered (reemployment probabilities and wages) between the control and treatment groups, the results are easier for nonstatisticians to interpret.

One weakness shared by both the scientific and nonscientific evaluations is that they do not take into account the displacement that may result from the retraining program. For example, in countries where demand for labor is constrained, retrainees may “bump,” or displace, employed workers, so aggregate unemployment may not change despite the size of the program. In general, displacement implies that the social benefits from reemployment attributable to the retraining program are lower than indicated by the evaluation, however well done.

The Importance of Costs

For the purposes of informing policy decisions, an evaluation is not complete until the costs of both the retraining program and its alternatives are considered. For example, if retraining is twice as costly as job search assistance but no more effective in finding people jobs and increasing their wages, job search assistance is twice as cost-effective. At least at the margin, such a finding would constitute a case for reallocating resources from retraining to job search programs. Unfortunately, costs appear to be the least analyzed aspect of these programs in OECD countries.

Even the most careful evaluations of retraining programs cannot be used for *social* cost-benefit analysis because of the displacement effects discussed above. But when done correctly, evaluations are good guides for cost-benefit analysis of *private* training programs, which policymakers can use to institute cost recovery in public programs and to promote private provision. Evaluations may also help in deciding whether retraining programs reduce budgetary expenditures by moving people off unemployment benefits into productive employment or whether the programs are a drain on the budget despite being effective.

Evaluating Retraining in OECD Countries

Retraining programs in OECD countries have been designed primarily to assist three categories of workers: those laid off en masse; those who have lost their jobs because

of plant closures; and those who have been unemployed over the long term. This review of the evaluations of eleven retraining programs classifies the specific situation that the program was designed to address, describes the policy intervention that was selected and the type of evaluation used, and reports the main results. Because the success of retraining programs depends on aggregate or regional labor market conditions, such as unemployment rates and the state of the leading industry, these indicators are reported as well.

We examine the type of retraining provided, whether in classrooms or on-the-job, and whether it was accompanied by—or in lieu of—other measures, such as job search assistance. The evaluations are classified as experimental, quasi-experimental, and nonscientific, and we do not consider inferences drawn from the nonscientific evaluations to be reliable. We then look at the effects of the program on reemployment and wages, both for subgroups of retrainees and type of intervention. The costs of the program are included when they are reported.

Training Programs Instituted as a Result of Mass Layoffs and Plant Closures

The results of eleven programs (three in the United States, four in Sweden, and one each in Australia, Canada, Denmark, and France) examining the effectiveness of retraining programs for workers displaced through mass layoffs and plant closures have been reviewed (Table A.1). Five of the evaluations were nonscientific and five were quasi-experimental. One study relied on more than one technique to evaluate the impact of the program; no study used experimental evaluation techniques.

The retraining programs were undertaken to assist workers in the steel, pulp, mining, shipbuilding, and automotive industries. The number of workers who lost their jobs varied from about 500 to 3,000 per plant. The rationale underlying the programs was apparently to assist the affected workers in any way possible. Generally, these programs were instituted during periods of high or rising aggregate unemployment or during a contraction in certain manufacturing industries. For example, the evaluations in the United States and Canada covered primarily the auto and steel industries, which were battered by competition from Japan. Between 1978 and 1980, auto production in the two countries declined 25 percent, precipitating layoffs and plant closures in the early 1980s. In Europe and Australia the retraining programs seem to have been instituted during periods of high or rising rates of unemployment. Most of the retraining programs were classroom based, and accompanied by job search assistance. With only one exception, on-the-job training was not provided or facilitated. In France retraining was accompanied by financial incentives to regional firms that hired trainees, so the full costs of the program were likely high (OECD 1993a).

Quasi-experimental and nonscientific techniques were used in evaluating all of these retraining programs. None of the studies was longitudinal, so they provide at best a snapshot of the labor market benefits of the program. The longer-term benefits of retraining were not evaluated even by the scientific evaluations. Although nonscientific evaluations indicate that these programs are very effective in placing high numbers of male workers in wage-earning jobs or in self-employment and women in business start-ups, more reliable quasi-experimental evaluations indicate that retraining programs are generally no more effective than job search assistance in increasing either reemployment probabilities or postintervention earnings. Some retraining programs resulted in modest gains in reemployment probabilities, but the wage changes were sometimes negative. Interestingly, evaluations of three retraining programs for U.S. auto workers showed the contrast between scientific and nonscientific techniques: in San José, California, a nonscientific evaluation indicated high placement rates, while in Buffalo, New York, and Michigan—during the same period—scientific evaluations showed that these programs were ineffective (OECD 1993a; Corson, Long, and Maynard 1985; Leigh 1992).

The costs, when they are known, varied between \$3,500 and \$25,000 a person. Evaluations seldom report the full costs of retraining or job search programs, however, so determining cost-effectiveness is difficult. Retraining programs appear to be between two and four times more expensive than job search programs: for example, in Buffalo, job search services cost \$850 a participant, while retraining cost \$3,300 (Corson, Long, and Maynard 1985). If, as the findings indicate, both programs have roughly the same success, job search assistance may be more cost-effective than retraining in assisting displaced workers get jobs.

Training Programs for the Long-Term Unemployed

There is no reason to assume that the impact of retraining on the long-term unemployed is the same as it is on workers laid off en masse. The results of studies examining the effectiveness of retraining programs for the long-term unemployed are shown in Table A.2. Of the eleven evaluations (four in the United States, three in Germany, two in the Netherlands, and one each in Canada and Britain), four were nonscientific, four were quasi-experimental, and three were experimental.

The clientele of retraining programs for the long-term unemployed is relatively heterogeneous. Because these individuals are displaced from various sectors and some have never worked, they are likely to be more varied in age, skills, and education than laid-off workers. New Jersey's retraining program in 1986–87 included workers whose previous jobs were in manufacturing, trade, and services (Anderson, Corson, and Decker 1991); many were more than 55 years old. In contrast, half the workers in Germany's retraining program for the long-term unemployed were less than 35 years old (Johanson 1994).

These programs are generally instituted during improving conditions in industry or in aggregate employment. Interventions at this stage, if appropriately designed, are thought to enable the long-term unemployed to obtain some of the jobs that are being created. The programs are more comprehensive than are those for people laid off en masse and generally provide a mix of classroom or workshop training, on-the-job training, and job search assistance.

Some experimental evaluations were conducted in the United States, and quasi-experimental techniques were used in both the United States and Europe. Some of these studies were longitudinal, providing an indication of the medium-term labor market benefits of the retraining program (see Johanson 1994 and OECD 1993b for Europe; and Leigh 1992, and Anderson, Corson, and Decker 1991 for the United States). But many of the evaluations in Europe were nonscientific.

Again, the results of nonscientific evaluations, which were encouraging, were not confirmed by evaluations based on scientific techniques. The effectiveness of programs for the long-term unemployed, while not high, was better than that of programs for those laid off en masse. A few programs did result, or were thought to have resulted, in gains in either reemployment probabilities or wages; some evaluations also indicated that these programs were more effective in helping women. But where participants did record gains in employment, longitudinal studies generally found that the effects of retraining dissipated within a couple of years. In this group, too, retraining programs were generally no more effective than job search assistance in increasing either reemployment probabilities or postintervention earnings. For example, evaluations of the Texas Worker Adjustment Demonstration program indicated that participants were likely to be employed more rapidly than nonparticipants, but that over time, the employment opportunities of male participants were no better than those of nonparticipants or of those who only had job search assistance (Bloom 1990). The costs, when known, varied between \$900 and \$12,000 a person, about twice as much as job search services, but the lack of data makes it difficult to determine the absolute cost-effectiveness of these programs. Still, job search assistance programs appear to be somewhat more cost-effective than retraining programs in finding jobs for the long-term unemployed.

Evaluation Results for Hungary

Rising unemployment and falling real wages are a vivid and costly aspect of countries in transition from controlled to market economies. Long-run unemployment is particularly pernicious, and many countries have mounted active labor programs (for instance, public retraining programs and public service employment) to deal with this problem. With the exception of Hungary, where the World Bank has sponsored rigorous evaluations and collections of data on costs, little reliable information exists

on their effectiveness. As an early reformer, Hungary provides valuable lessons for other transition economies. Since 1989 sharp declines in the country's gross domestic product have been accompanied by rising unemployment and falling real wages. The unemployment rate appears to have stabilized since 1993, but employment continues to decline, reflecting a continuing withdrawal of workers from the formal labor market. Since 1990 the government has offered workers retraining programs financed by a national employment fund. Trainees, who are either currently unemployed or are working but expect to become unemployed, include participants in public works programs. Instruction is largely classroom based.

Evaluations using different quasi-experimental techniques—matched pairs, regression adjusted, and selectivity corrected—yielded different results (O'Leary 1995). Before adjusting for differences in the characteristics of program participants and control groups, estimates of effectiveness indicated that retraining significantly raised the probability of reemployment. But when the observable characteristics of treatment and control groups were taken into account, retraining (and training, because about 40 percent of trainees had not worked previously) was only marginally successful at best, increasing the probability of finding employment by 6 percent. Further controls for unobservable attributes led to ambiguous results. Retraining was not at all successful in raising earnings.

Preliminary analysis indicates that retraining was a substitute for attributes that lead to higher reemployment probabilities in the absence of any intervention, such as being younger, better educated, and from more dynamic regions. That is, the program's value-added (in terms of improving labor market outcomes) is greater for relatively disadvantaged job-seekers. This finding may be country specific, and other countries or regions should determine whether it applies to them before implementing similar large-scale programs. For the programs evaluated in Hungary, focusing more on job-seekers who lack these attributes would appear to serve both equity and efficiency objectives better than simply ensuring support for programs whose retrainees have high probabilities of reemployment and gains in earnings. The analysis implies that public retraining programs should target older men from backward regions.²

This finding also highlights the usefulness of rigorous impact evaluations, which net out the effects of such attributes in determining whether a program is effective. And it underscores the need to agree upon a reliable, feasible, and easily interpreted technique to evaluate the efficiency and equity effects of labor programs. Because of its analytical rigor and feasibility, we argue that the preferred evaluation technique is matched pairs analysis, where trainees are compared with a subset of the control group whose characteristics most resemble their own.

Private cost-benefit analysis of the costs of retraining (an average of approximately \$900 per trainee in 1994, according to Pulay 1995) and the level of gains in reemployment reveal that based on reasonable assumptions about the durability of

Table 1. Summary of OECD Retraining Programs and Evaluations

<i>Item</i>	<i>Displaced workers</i>	<i>Long-term unemployed</i>
Previous sector of employment	Manufacturing	Heterogeneous
Labor market conditions	Generally deteriorating	Generally improving
Training venue	Mainly classroom	Classroom and OJT
Other measures provided	JSA	JSA
Type of evaluation		
Nonscientific	6	4
Quasi-experimental	5	4
Experimental	0	3 (all U.S.)
Effectiveness		
Nonscientific techniques	Positive	Generally positive
Scientific techniques	Negative	Generally negative; some groups benefit
Relative to JSA	No more effective	No more effective
Costs		
Retraining	Data are not available	Data are not available
Relative to JSA	At least twice as costly	At least twice as costly

Note: JSA, job search assistance; OJT, on-the-job training.

program effects and the amount and duration of unemployment benefits, it would take more than 30 years to recover costs of the program (Gill and Dar 1995). It seems difficult to justify retraining programs based on economic considerations alone, even in a country such as Hungary where the government provides benefits for unemployed workers.

Summary and Conclusion

The paucity of rigorous evidence on the costs and effectiveness of retraining programs does not permit a definitive conclusion on whether such interventions can be justified economically (Table 1). The scattered evidence does not appear to justify the indiscriminate expansion of retraining programs to cover more of the unemployed. These conclusions are consistent with the findings in the *OECD Employment Outlook* (1993b), which concluded that “for the broadly targeted sub-group of programs, the overall impression is most troubling. Available evidence does not permit strong conclusions, but it gives remarkably meager support of a hypothesis that such programs are effective.”

From this discussion it appears that transition and other restructuring economies can draw the following lessons from experience in the OECD countries:

First, sound techniques should be used to evaluate retraining programs (and other public interventions). Although the nonscientific evaluations of retraining programs present a rosy picture based on placement rates and other informal evidence, scientific evaluations are quite discouraging. Relying on nonscientific evaluations may lead to incorrect policy conclusions.

Second, rigorous evaluations, although not necessarily allowing a complete social cost-benefit analysis, can be useful for policymakers in allocating public expenditure on labor programs. Reviews of evaluations find, for example, that job search assistance measures—which cost less than retraining but appear equally effective—may be a more cost-effective device in assisting displaced workers.

Third, OECD experience of retraining programs for workers displaced en masse may be useful in designing assistance programs in transition countries such as the former Soviet Union and liberalizing economies that expect labor shedding in the manufacturing and mining sectors. Principally, these economies should recognize that retraining should not be the main form of assistance.

Fourth, transition and developing economies that are beginning to experience long-term unemployment can learn from OECD experience, which indicates that retraining programs for the long-term unemployed are more beneficial for some groups than for others within this relatively heterogeneous group of job-seekers. Which group will benefit most from retraining is difficult to predict, however. Principally, these results call for using modest untargeted pilot programs, evaluating them rigorously, and then tightly targeting public retraining programs to those for whom they are found most cost-effective.

Notes

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1. Heckman (1992) documents other limitations of this technique when applied to social experiments; these limitations derive from selectivity biases.

2. These findings contrast with those of Revenga, Riboud, and Tan (1994) for retraining programs in Mexico. Using quasi-experimental techniques, they find that effectiveness can be improved if programs better target relatively educated job-seekers of both sexes with previous work experience. They also find generally more encouraging results than those for OECD countries and Hungary.

Table A.1. Overview of Studies Evaluating Training Programs for Workers Displaced by Plant Closures and Mass Layoffs

Labor market problem	Relevant indicators	Intervention design	Type of evaluation	Result	Comments
Ford Motor Co. plant closure in San José, Calif. (1982). Some 2,400 workers affected (OECD 1993a).	A 25 percent decline in auto production between 1978 and 80. Unemployment rates rose from 7.5 percent in 1981 to 9.5 percent in 1982 and 1983, and manufacturing employment declined by 5 percent during 1981–83.	Basic skills training as well as targeted vocational training in marketable skills.	Nonscientific	High rate of success in placing workers in jobs.	Perceived success was due to adequate resource base (\$6,000 grant per worker) and a high degree of coordination provided by Ford and by government.
Automotive plant closures in Michigan (1980–83). More than 3,000 workers laid off, mostly experienced, highly paid blue-collar male employees (Leigh 1992; 1994).	A 25 percent decline in auto production between 1978 and 1980. High unemployment rates in 1981–82 nationally (9.5 percent), which fell to 7.5 percent by 1984. Manufacturing employment rose by 5 percent between 1983 and 1984.	Both JSA and classroom training were provided promptly after plant closures. Retraining was offered in occupations in which there was growing demand, including blue-collar trades.	Quasi-experimental	Classroom training did not significantly improve the participants' reemployment rate. Trainees did no better than those receiving JSA.	Earnings estimates vary (ranging from negative to significantly positive). Training does not seem to have been very effective, especially in light of the fact that training cost twice as much as JSA.
Auto and steel plant closures in Buffalo, N.Y. (1982–83). Mass layoffs of highly paid, experienced blue-collar male workers (Corson,	High unemployment rates in 1981–82 nationally (9.5 percent), which fell to 7.5 percent by 1984. Manufacturing	Displaced workers were provided with both JSA and either classroom training or ORT. Program services were provided after a	Quasi-experimental	JSA services had a fairly large impact on earnings for the first six post-program months. However, there is no evidence that either	Classroom training and ORT were ineffective. These programs cost about four times as much as JSA, implying that JSA is potentially

Long and Maynard (1985).	employment rose by 5 percent between 1983 and 1984.	fairly lengthy period of unemployment.		classroom training or OJT had any incremental effect.	the only cost-effective program. No evidence was provided on the participants' employability.
Plant closures at 13 steel factories and mines in Canada in the 1980s (Leigh 1992).	Unemployment rates rose between 1980 and 83. Employment in nonagricultural activities fell slightly during the period.	USA and training programs were provided.	Quasi-experimental	Participants had a 7 percent higher rate of employment than comparably displaced workers who did not participate in the program. This impact was attributed to training in which 28 percent of workers participated. But at two mining sites, the program had no impact.	Training seems to have had a greater impact than USA. No information was available on the cost of training. Job counseling has little impact in Canada, where such services are routinely provided to the unemployed by the Public Employment Service.
Steel and coal plant closures in Creusot-Loire, France (1984). 1,230 people affected (OECD 1993a).	Steel sector contraction resulted in the loss of 6,000 jobs during 1984. Unemployment rates rose from 8.1 percent in 1982 to 10.2 percent by 1985. In mining employment fell by almost 40 percent between 1980 and 1990. Manufacturing employment fell about 6 percent from 1983 to 1985.	Workers received 70 percent of their former salaries for 10 months while enrolled in re-training and job-search activities. Trainees (in engineering, plastic molding, refrigeration, etc.) were promised reemployment in the region. Career counseling and short courses in work skills, production methods for small firms,	Nonscientific	High success rate in finding jobs for participants.	No evidence that retraining programs produced long-term employment benefits.

(Table continues on the following pages.)

Table A.1. (continued)

Labor market problem	Relevant indicators	Intervention design	Type of evaluation	Result	Comments
Pulp plant closure in Kramfors, Sweden (1977) (OECD 1991).	Unemployment rates in Sweden rose from 1.6 percent in 1976 to 2.2 percent by 1978. Employment in manufacturing declined by 8 percent between 1977 and 1979.	Participants were provided with classroom training.	Quasi-experimental	Participants received lower weekly wages than those who did not receive training. Drop in earnings was especially significant in the first year; there were no appreciable long-term gains.	No information provided on reemployment rates or costs. Benefits from retraining program were insignificant.
About 2,000 workers laid off at the Uddevalla shipyard in Sweden (1985) (Alfthan and Janzon 1994).	Volvo Co. set up a manufacturing plant in Uddevalla. Unemployment rates were declining in this period while manufacturing employment was fairly steady.	A significant number of workers joined retraining programs several months before they were laid off. Courses of varying duration were offered in welding, engineering, and control engineering. These retraining programs were provided by the state-owned training board, municipal education institutions, and other adult education services.	Nonscientific	By November 1987, more than 90 percent of the workers who had completed training had found jobs or become self-employed—most of them in occupations for which they had trained.	Two factors accounted for the success of the training program: economic and labor market conditions were buoyant in the region, and management, employment offices, and training agencies worked in close cooperation.

<p>Volvo Co. plant at Göteborg, Sweden, announced that 1,000 workers would be laid off in 1992 as it phased out an old model and toolled up for a new one (Alfthan and Janzon 1994).</p>	<p>Volvo planned to recruit 800 workers to manufacture the new line of cars. Unemployment rates were rising sharply—from 3.2 percent in 1991 to 5.9 percent in 1992. Manufacturing employment dropped by 9 percent in 1992. Total employment fell by 4 percent.</p>	<p>A retraining program was designed to help the existing work force manage the change without job losses. The company accepted the proposal under the stipulation that the cost be shared by the government. The program was a broad competency-raising exercise, with specific training to prepare the participants for the production of the new automobiles.</p>	<p>Nonscientific</p>	<p>Program has not yet been evaluated.</p>	<p>Program costs are expected to be about \$25 million (\$25,000 per person), close to half of which will be paid for by the government. In judging the cost-effectiveness of this program, it should be noted that the unemployment benefits the government would have had to pay would amount to \$6.5 million.</p>
<p>Shipyard closure in Storstrom county, Denmark (1986). 2,000 people lost their jobs (OECD 1993a).</p>	<p>High unemployment rates in region, especially among women. National unemployment rates for men in 1986 and 1987 were 6.1 and 6.4 percent, respectively, while the corresponding numbers for women were 10 and 9.6 percent. Employment in manufacturing was stagnant from the mid-1980s.</p>	<p>This program (1986–89) trained women entrepreneurs to help them start their own businesses. A total of 200 hours of specific business-oriented training was provided.</p>	<p>Nonscientific</p>	<p>Fifty-one businesses were set up in 1989. Less than a third of the participants opened a full-time business, and few hired any employees, thus the total additional employment generated was low.</p>	<p>The program did not seem to be successful and was apparently quite costly (reliable cost estimates are not available).</p>

(Table continues on the following page.)

Table A.1. (continued)

Labor market problem	Relevant indicators	Intervention design	Type of evaluation	Result	Comments
Sweden, 1980s and 1990s: general evaluation of public retraining programs (OECD 1991).	Unemployment rose steadily over the period.	Various types	Various types	Retraining programs have become less effective over time—especially since the economy has begun deteriorating. Participants have had more trouble finding jobs than other unemployed workers.	The cost-effectiveness of these programs declined both because they were less successful and because the costs increased.
Automobile plant closure in Australia in 1984. 445 workers laid off (Leigh 1992).	Unemployment rates rose steadily in Australia, reaching a high of 9 percent in 1984 before falling to 8 percent for the next few years. Between 1980 and 1984 employment in manufacturing fell by 4 percent.	Labor Adjustment Training Arrangement offered classroom training (average length 19 weeks). Main distinction between courses was whether they provided driver training or not.	Quasi-experimental	Over a nine-month period, driver training increased the probability of reemployment. However, fewer trainees of other training courses found jobs.	There were no data showing the cost-effectiveness of different types of training courses. Self-selection was a problem because individuals who chose not to participate were in the control group. The impact of longer training was negative.

Note: JSA, job search assistance; OJT, on-the-job training.

Table A.2. Overview of Studies Evaluating Training Programs for the Long-Term Unemployed

Labor market problem	Relevant indicators	Intervention design	Type of evaluation	Result	Comments
Training for workers eligible for JPTA Title III program (displaced worker) in Houston, Texas (1983-85). Eligible individuals were unemployed and had a low probability of returning to their previous occupation or industry (Bloom 1990).	A decline in petrochemical industry led to layoff. U.S. unemployment rates declined from 9.5 percent in 1983 to 7.4 percent in 1985 (and maintained this trend until the late 1980s). Employment in this industry increased slightly between 1983 and 1985.	Texas WAD project. Displaced workers were provided with JSA or a mix of JSA with classroom training.	Experimental	One year after the program's completion, participants registered no additional earning gain when compared with the sample of workers who had been given only JSA.	Despite the high costs of classroom training (twice as much as JSA), no additional gains accrued from this type of training.
Training for workers eligible for JPTA Title III program (displaced worker) in El Paso, Texas (1983-85). (Criteria same as above.) Workers laid off from light manufacturing plants (Bloom 1990).	U.S. unemployment rates declined from 9.5 percent in 1983 to 7.4 percent in 1985 (and maintained this trend until the late 1980s). Employment in manufacturing fell by close to 2 percent between 1982 and 1983 but rose to about 5 percent in 1985.	Texas WAD project. Displaced workers or combined with classroom training.	Experimental	One year after the program's completion, this program recorded no effect on male employees' earnings but did increase the earnings of women.	The increase in earnings of female participants was slightly more than the program's costs. Male employees reported no beneficial effects.

(Table continues on the following pages.)

Table A.2. (continued)

Labor market problem	Relevant indicators	Intervention design	Type of evaluation	Result	Comments
Assistance aimed at the long-term unemployed in New Jersey (1986-87). In general, workers were laid off from manufacturing, trade, and services (Corson and others 1989).	Unemployment rates in the U.S. fell from 7.1 percent in 1985 to 6.1 percent by 1987. While employment in manufacturing remained fairly steady between 1985 and 1988, trade employment increased 7 percent and service-sector employment rose about 5 percent.	New Jersey UI Reemployment Demonstration project. This program provided displaced workers with JSA alone, or followed by OJT, classroom training (CT), or a reemployment bonus.	Experimental	More than 10 quarters after the program ended, both CT and OJT significantly increased earnings over those who received JSA only. These individuals were also employed for longer periods of time in each quarter than the JSA-only group.	While the results of training were positive, the following caveats apply: the trainees were self-selected (thus these results may not apply for a random group of claimants); only 15 percent of those offered training accepted it; and training benefited those who already had marketable skills. Finally, analysis showed that the costs exceeded the expected benefits.
Long-term unemployed workers in the U.S. (1988), primarily resulting from plant closures (Leigh 1992).	Unemployment rates in the U.S. fell from 7.1 percent in 1985 to 6.1 percent by 1987. While employment in manufacturing remained fairly steady between 1985 and 1988, trade employment increased 7 percent and that in services about 5 percent.	The Trade Adjustment Assistance Program was intended to develop workers' skills in new occupations. Most of these skills were supplied by a vocational college or local community college in courses that were more than a year long.	Quasi-experimental	Individuals who received training began earning significantly more than those who received extended income-maintenance benefits by the 6th quarter and continued to earn more until the 12th (last) quarter, reaching a level of \$500 a quarter.	The analysis was limited to the manufacturing sector. Long-term investments in training may be effective in increasing earnings, but the training is costly (each trainee was given a \$12,000 training voucher).

<p>Long-term unemployed workers in Canada (Goss and associates 1989).</p>	<p>Compared with the U.S., unemployment rates have been fairly high in Canada. However they declined from 11.2 percent in the mid-1980s to 7.5 percent in 1989. Spurred by growth in commerce and services, employment grew about 3 percent annually over the time period.</p>	<p>The Job Development Program provided classroom training and OJT. Wages and direct costs of classroom training were subsidized. The wage subsidy helped employers cover the cost of OJT.</p>	<p>Quasi-experimental</p>	<p>Employability of women rose while that of men declined. Weekly earnings of women were insignificant relative to that of the control group, while they were lower for males.</p>	<p>In view of the high program costs (around \$9,300 per participant), this training is not cost-effective, especially for men.</p>
<p>High regional unemployment levels in Germany in the late 1970s (OECD 1991).</p>	<p>In 23 of the 142 regions in Germany, unemployment levels were above 6 percent. Some firms were also facing serious problems in adjusting to economic changes.</p>	<p>Among other interventions, training and retraining of unemployed in firms. The firms who employed these trainees received a subsidy of 90 percent of the employees' wages for two years.</p>	<p>Nonscientific</p>	<p>Training reduced unemployment somewhat, but it is estimated that more than 40 percent of these hard-to-place individuals had already left their jobs by 1981.</p>	<p>In light of the extremely high cost (around \$500 million for training and other interventions), the results were very disappointing. No information was provided on wages.</p>
<p>Individuals at risk of being unemployed in 1987-88 in Germany (Johanson 1994).</p>	<p>Unemployment rates were steady between 1986 and 1988. They fell somewhat by 1990. Employment grew at slightly more than 1 percent during this period.</p>	<p>This is an evaluation of four programs, two of which trained workers for new occupations (one offered further training for employed and unemployed individuals, while the other offered retraining for the unemployed).</p>	<p>Quasi-experimental</p>	<p>No type of training had any significant impact on the flows out of short- or long-term unemployment, or on the flows into unemployment.</p>	<p>No information on wages or costs of training.</p>

(Table continues on the following pages.)

Table A.2. (continued)

Labor market problem	Relevant indicators	Intervention design	Type of evaluation	Result	Comments
Individuals who were either at risk of becoming unemployed or were already unemployed in Germany in the early 1980s (Johanson 1994).	Unemployment rates remained fairly steady at just over 10 percent in the early 1980s.	Training prepared workers for certification in one of the 375 apprenticeable trades. The program required up to two years to complete. Contents and specification of retraining correspond to those of initial vocational training.	Nonscientific	The overall success rate, measured in terms of retention rates, was 54 percent. Employability varied by age—less than half of those over 45 years old who were unemployed more than one year found jobs, while 86 percent of 25- to 35-year-olds did.	No data on cost were available. The number of workers who left their jobs was fairly high: two years after completing training only 60 percent of the men and 66 percent of the women were still employed.
Help for long-term unemployed and displaced workers in England in the 1980s (Addison and Siebert 1994).	High unemployment rates (around 10–11 percent) persisted through much of the 1980s. Between 1983 and 1990 employment rose by around 1.5 percent.	This community-based program provided vocational training by local authorities in conjunction with local colleges, central government, and voluntary organizations. Little private sector involvement.	Nonscientific	Little impact on flows from long-term unemployment.	The cost-effectiveness of these programs is likely to be negative.

<p>Improve skills and provide better access to jobs for the long-term unemployed in Tilburg, the Netherlands (OECD 1993a).</p>	<p>Unemployment rates fell from about 13 percent in the early 1980s to below 10 percent by the end of the decade.</p>	<p>Training provided hands-on experience (through a simulated workshop). The emphasis was on technical skills (metalworking, woodworking, installation techniques, and apparel trades) as well as on good work habits. Courses ran from 4 to 10 months.</p>	<p>Nonscientific</p>	<p>In 1991, of the 82 individuals enrolled in the course, 52 completed it and 41 found jobs or went on for further education. The most successful training was in metalworking.</p>	<p>Training was quite expensive: annual funding of the program was about \$7.5 million, or \$10,000 per trainee.</p>
<p>Job training programs for unemployed and displaced workers in the Netherlands (OECD 1994b).</p>	<p>Unemployment rates fell from about 13 percent in the early 1980s to below 10 percent by the end of the decade.</p>	<p>Centers for adult vocational training.</p>	<p>Quasi-experimental</p>	<p>Unemployed people who were not in the program found jobs as quickly as those who were. Even two years later, the employment situation for the two groups was not significantly different.</p>	<p>No data were available on wages and costs, but training seems to have been ineffective in terms of increasing the employability of participants.</p>

Note: ISA, job search assistance; OJT, on-the-job training.

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The word "processed" describes informally reproduced works that may not be commonly available through library systems.

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