SWEDISH ECONOMIC POLICY REVIEW 2 (1995) 65–98

Swedish Labor Market Programs: Efficiency and Timing

Susanne Ackum Agell*

Summary

■ This paper addresses three main questions. First, which type of active labor market program is best in terms of increasing an individual's future labor market prospects? In general, the results of this study suggest that participants in replacement schemes are better off than participants in labor market training, job introduction projects and relief work. Second, is there an optimal timing of placement in a program during an unemployment spell? The results imply that late placement reduces the individual's employment probability, though the effect is rather small. Third, does participation, as compared with nonparticipation, increase the individual's future labor market prospects? The results suggest that there is no positive effect: participants in the four active labor market programs considered all display a lower exit rate to regular employment than nonparticipants. ■

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Susanne Ackum Agell*

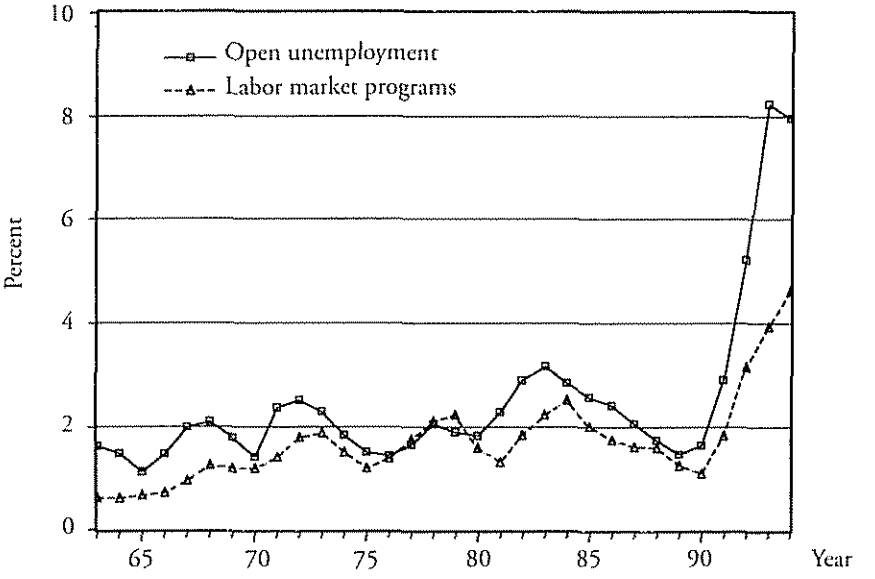
In the early 1990s the Swedish economy went into its deepest recession since the 1930s. In only four years' time the open unemployment rate increased more than fivefold: or from 1.6 percent in 1990 to 8.2 percent in 1993. In this situation the government has emphasized job creation and labor market training instead of cash benefits for the unemployed. This means that the number of participants in different labor market programs has also increased dramatically. They comprised nearly 5 percent of the labor force in 1994, whereas the figure for 1990 was 1 percent (see Figure 1).

Active labor market policy has been a Swedish policy strategy for a long time. This policy has also attracted interest in the international literature. For example, Layard *et al.* (1991) advocate the Swedish mixture of active measures and unemployment insurance with short benefit duration as a means to overcome the persistence of unemployment observed in Western Europe during the last decade. If their recommendation is well-founded, there is reason for optimism as to future employment developments in Sweden.

However, a policy of engaging nearly 5 percent of the labor force in different programs may also introduce large inefficiencies. For example, during the 1990s there has been a tendency to initiate programs that involve many unemployed but cost little per head. An emphasis on quanti-

I am grateful for very useful suggestions by Anders Björklund, Lars Calmfors, Karl-Gustaf Löfgren and participants at seminars arranged by the Economic Council of Sweden, the Ministry of Labor and the Department of Statistics, Uppsala University. Financial support from the Expert Group for Labor Market Research, Swedish Ministry of Labor, is gratefully acknowledged

Figure 1. Open unemployment and participation in labor market programs as percentages of the labor force (1963–1994)



Note: The labor market programs include labor market training, replacement schemes, job introduction projects, relief work and specific youth measures.

Source: Statistics Sweden (SCB) and the National Labor Market Board

ty instead of quality may be necessary in a deep recession with high unemployment, but may also render a policy less effective, as pointed out by e.g. OECD (1993), Calmfors (1994a) and Jackman (1994). Furthermore, placement in programs has occurred in order to prevent the unemployed from exhausting their unemployment benefits. This may mean that less attention is paid to active measures as a means to increase the individual's future labor market prospects. Recent estimates of the returns from participation in labor market training suggest that such a loss of efficiency may have occurred. Regnér (1993) could find no evidence that labor market training in the late 1980s and early 1990s increased the future incomes of participants. This is in contrast to studies encompassing the early and mid 1980s (Axelsson, 1989 and Brännäs and Eriksson, 1994).

Policymakers now face the problem of designing an optimal mix of active labor market programs (ALMPs) to minimize the risk of unemploy-

ment persistence in Sweden. Such programs will have to be implemented under heavy fiscal pressure, since Sweden is suffering from a severe government budget deficit. Furthermore, there is little guidance from earlier research as to which direction should be taken. One reason is that the results vary among different studies; another is that results from a period of low unemployment may not be applicable to the present situation.[1]

The purpose of this study is to contribute to our understanding of how ALMPs have worked during the recession. In doing so, the following three questions will be illuminated: Which types of programs increase the individual's employment probability the most? Is there an optimal timing of placement in a program during an unemployment spell? Does participation, as compared with nonparticipation, increase the individual's future labor market prospects; i.e., do the programs have a positive effect?

In the remainder of this paper I begin by outlining some institutional features of Swedish labor market policies. The date are described in Section 2 and the empirical analysis is presented in Section 3. Policy implications are discussed in Section 4.

1. Institutional features of Swedish labor market policies

Swedish labor market policy has two components: a benefit system that supports the individual while unemployed and various active labor market programs. ALMPs are motivated primarily by the fact that unemployment causes loss of production and prevents individuals from acquiring human capital. This analysis focuses on four programs that differ in content, cost and time of initiation: labor market training (*arbetsmarknadsutbildning*), temporary replacement schemes (*utbildningsvikariat*), job introduction projects (*arbetslivsutveckling*), and relief work (*beredskapsarbete*).

1.1. The unemployment benefit system

The benefit system[2] is divided into two parts. The most important is the unemployment insurance system (UI). Compensation is paid to an unemployed individual who has been a member of a certified UI fund for

[1] For surveys of earlier studies, see e.g. Björklund (1990), Forslund (1992), SOU (1993), Calmfors (1994a) and Forslund and Krueger (1994).

[2] See Ackum Agell *et al.* (1995) for details on the benefit system.

at least 12 months (*membership requirement*). In addition, the individual has to have worked for at least five months during the 12-month period preceding the unemployment spell (*work requirement*). The insurance rules also permit the work requirement to be met by participation in ALMPs. The compensation is 80 percent of previous labor income up to a certain maximum amount. UI benefits are paid for a maximum of 60 calendar weeks for those under 55 years of age.

The other part of the benefit system is cash assistance (*kontant arbetsmarknadsstöd*). Cash assistance (CA) provides benefits for unemployed individuals who meet the work requirement but not the membership requirement. The daily cash allowance is much lower than the daily benefit from the UI funds; since July 1993 CA is SEK 245 per day, while the maximum UI benefit is SEK 546 per day. CA is paid for 30 calendar weeks to individuals under 55 years of age.

1.2. Four active labor market programs

1.2.1. *Labor market training*

Labor market training was introduced as early as 1936. It targets mainly unemployed individuals (or those at risk of becoming unemployed) who are older than 20, and for whom training is regarded as leading to a permanent job on the regular labor market. Courses are provided free of charge and during training the participants receives a taxable training grant equivalent to the UI benefit that the individual would have received as openly unemployed.

Training programs range from vocational education to general introductory courses. They are purchased by the labor market authorities from different providers including the regular educational system (in 1993 the latter accounted for only 9 percent of the total number of participants in training programs). A typical training course lasts for about six months.

1.2.2. *Replacement schemes*

Replacement schemes were introduced in September 1991. The idea is that an unemployed individual should replace a regularly employed worker who is on leave for education. The gain is thus twofold: it gives an unemployed individual a temporary job while creating an opportunity for employers to enhance the skills of their employees. The unemployed workers who replace the regular staff are selected by employment officers

and are paid according to the collective agreement at the work site where the replacement scheme takes place.

The employer can deduct SEK 475 per day from the payroll tax to cover the labor cost associated with employing the substitute. Moreover, approved training costs are tax deductible. Evidence in Ackum Agell (1995) shows that the public sector account for about 80 percent of the total replacement schemes.[3]

1.2.3. Job introduction projects

The purpose of job introduction projects, which were introduced in January 1993, is to give an unemployed individual an opportunity to maintain and enhance contact with the regular labor market and to prevent the individual from losing benefits. Unemployed individuals over 17 years of age who receive unemployment benefits are eligible for this measure. The projects last for about six months and during participation the individual receives UI benefits.

Job introduction projects can be arranged by almost anyone and represent almost any activity. Sponsors include municipalities, the government and private firms, and activities range from cultural work, painting the clubhouse at a golf course, to introductory courses in how to start one's own business. About half the projects take place in the private sector and the most frequent tasks are in administration and construction (Ackum Agell, 1995). In principle these projects should not replace jobs that are part of the organizers' normal activity. However, circumstantial evidence in Hallström (1994) shows that all parties involved (sponsors, participants and the employment officers) believe that job introduction projects replace ordinary activities. Labor in job introduction projects is free for the employer, and any additional cost incurred by the projects can be covered by government funding.

1.2.4. Relief work

Relief work is the oldest type of active labor market measure in Sweden, introduced as early as 1931. It is used to counteract unemployment in times of recession, seasonal downturns or other circumstances that lead to

[3] The interview study in Ackum Agell (1995) was carried out in November 1994 and covers the same individuals as in this study.

reduction in employment. The objective is to give the unemployed a chance to stay in contact with the regular labor market, thereby increasing their reemployment probabilities.

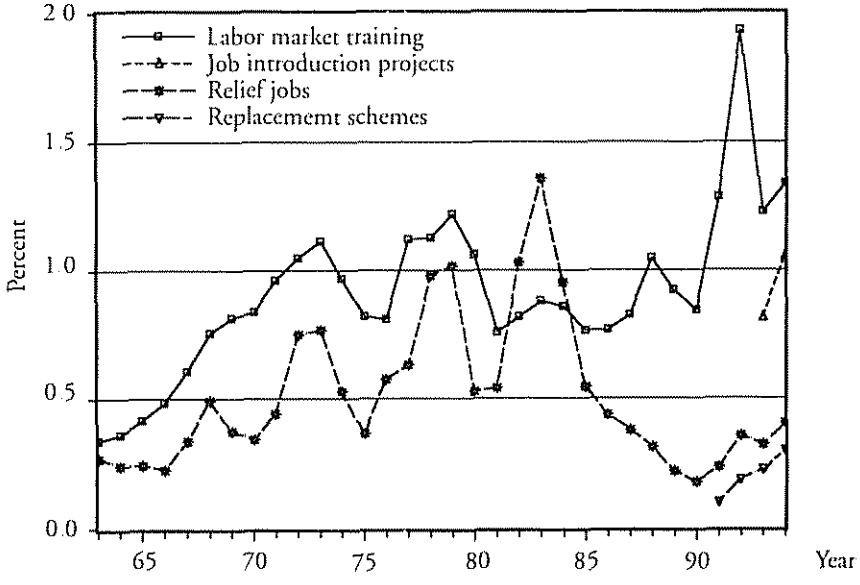
Individuals have to be unemployed and older than 24 to be eligible. They are paid according to the collective agreement at the work site. Since 1993, the stipulated working time is at most 36 hours/week. Relief work normally lasts for six months.

Recent evidence shows that about two-thirds of all relief work takes place in the public sector and that jobs in construction and administration are the most frequent (Ackum Agell, 1995). Relief jobs are not intended to replace tasks that comprise the normal activities of the organizer. However, the empirical results on this setup are ambiguous. They indicate that a large proportion of the relief work in the construction sector replaces ordinary jobs, while no crowding out was found when these jobs occur in the health and welfare sector (Gramlich and Ysander, 1981; Forslund and Krueger, 1994). In general, those who employ relief workers receive a grant covering 65 percent of the total labor cost up to a fixed amount (SEK 14 300 in 1993).

1.3. Size of programs

Figure 2 illustrates that the recent composition of the four programs differs from that of earlier recessions. Historically, relief work has shown the clearest countercyclical pattern. In the recent recession, however, the number of relief jobs have been quite small. Instead, labor market training was expanded in the beginning of the recession, and in 1992 it involved almost 2 percent of the labor force. Training has not expanded since 1993, when job introduction projects were introduced. From then on, job introduction projects show the largest expansion: in 1994 they covered 1.1 percent of the labor force.

Figure 2. Participants in labor market training, replacement schemes, job introduction projects, and relief jobs as percentages of the labor force (1963–1994)



Source: The National Labor Market Board

2. Data

The data set is a choice-based sample of unemployed individuals registered at the public employment offices in Sweden.[4] Registration at these offices is compulsory for individuals who receive UI benefits and CA, and is necessary for those who want to avail themselves of the services offered by placement offices (including access to ALMPs). Survey evidence shows

[4] In a choice-based sample, individuals are not randomly drawn from the underlying population. Here this means that individuals were not chosen randomly from the population of unemployed. Instead, five categories were identified as the basis for random sampling. The five categories are openly unemployed individuals and participants in the four programs described in Section 1.2. Choice-based, instead of random, sampling was chosen because I had to economize on the sample size. (Random sampling of 4 000 individuals from the unemployment population would have reduced the number of observations of ALMP participants to such an extent that an analysis of effects of ALMPs would have been severely limited.) In the empirical analysis, with a choice-based sample, I had to assume that the residuals in the regression are uncorrelated with the sampling probability (Heckman and Robb, 1983)

that about 90 percent register. The generality of the data used here is an advantage compared with earlier Swedish studies that have been restricted to specific data sets, such as unemployed youth in Stockholm (Ackum, 1991 and Korpi, 1994) or laid-off workers from a pulp plant in northern Sweden (Edin, 1989).

The individuals in our sample were drawn from the inflow to open unemployment, labor market training, replacement schemes, job introduction projects and relief work in September 1993, March–April 1994 and August–September 1994. The reason for choosing the inflows at these dates, instead of the stock, was to avoid length-bias sampling (if the stock is sampled, short spells will be underrepresented). By choosing three different sampling dates, instead of just one, the possibility of bias due to time-specific shocks is reduced. The sample size is 3 980.[5]

Individuals were observed from the time they registered as looking for a job at the employment office (the earliest registration took place in January 1991) until sampling occurred (December 1994). At registration the individual gives some background information on e.g. age, gender and education. After that information follows from spells in open unemployment and in different ALMPs. The data set also contains information on regional unemployment and participation in ALMPs.

Table 1 presents the mean characteristics of the individuals in the sample. Columns 1–4 show characteristics for those who participated in the four ALMPs under study and column 5 shows characteristics of the nonparticipants.

It should be noted that gender does seem to play a role for the probability of ending up in a specific program. Over 70 percent of the participants in replacement schemes are females, while 63 percent of the participants in job introduction projects and relief work are males. A plausible explanation for this is that about 80 percent of the replacement schemes take place in the public sector (which attracts mostly females), while job introduction projects and relief work are frequent in the construction

[5] To reduce the occurrence of unobserved individual heterogeneity, the following restrictions were placed on the data. The sample consists of individuals aged 20 to 54 at the time of registration, they are registered at the employment office for the first time during the recent recession, they are able to take a job immediately, and those who participate in ALMPs have only one spell of open unemployment before placement. In constructing the dependent and explanatory variables, individuals with obviously inconsistent observations were omitted. This work was completed with the assistance of Anders Harkman at the National Labor Market Board.

Table 1. Sample characteristics of individuals in labor market training, replacement schemes, job introduction projects, relief work and nonparticipants in labor market programs

	Labor market training	Replacement schemes	Job introduction	Relief work	Nonparticipants in programs
Female	45	72	37	37	49
Age –30	25	43	20	22	47
Age 30–40	32	25	32	33	26
Age 40–	43	32	48	45	27
Swedish citizenship	90	96	96	90	94
Other citizenship	10	4	4	10	6
Education low	9	5	8	10	5
Education compulsory	20	14	24	22	18
Education senior high school	58	58	54	57	59
Education university	14	23	14	11	17
Region big city	29	27	32	29	43
Region forest	23	21	25	29	20
Region other	48	52	43	42	37
Experience none	10	11	5	8	17
Experience some	15	23	16	14	22
Experience high	75	65	79	78	62
UI	74	75	93	69	62
CA	9	7	6	10	15
No benefits	16	17	2	21	23
Days unemployed before participating in program	192	148	292	269	
Number of individuals	876	785	862	726	731

Note: See the Appendix for a list and explanation of the variables. All variables, except for the last two, are in percent.

(dominated by males). Age seems to matter for placement in a program. First, those under 30 are less frequent among participants than nonparticipants. This can, of course, be explained by the fact that most individuals in the youngest cohort participate in youth programs which are not considered in this study (see Skedinger, 1995, for an evaluation of youth programs). Second, Table 1 suggests that programs are targeted at individuals over 40.

Citizenship appears important. Individuals of foreign origin constitute a larger proportion of the participants in labor market training and relief work than in replacement schemes or job introduction projects. These differences probably reflect the fact that foreign citizens do not have a

good command of Swedish: they are overrepresented in training since they take introductory courses in Swedish, and underrepresented in replacement schemes since this measure is probably the most demanding in terms of a command of Swedish.

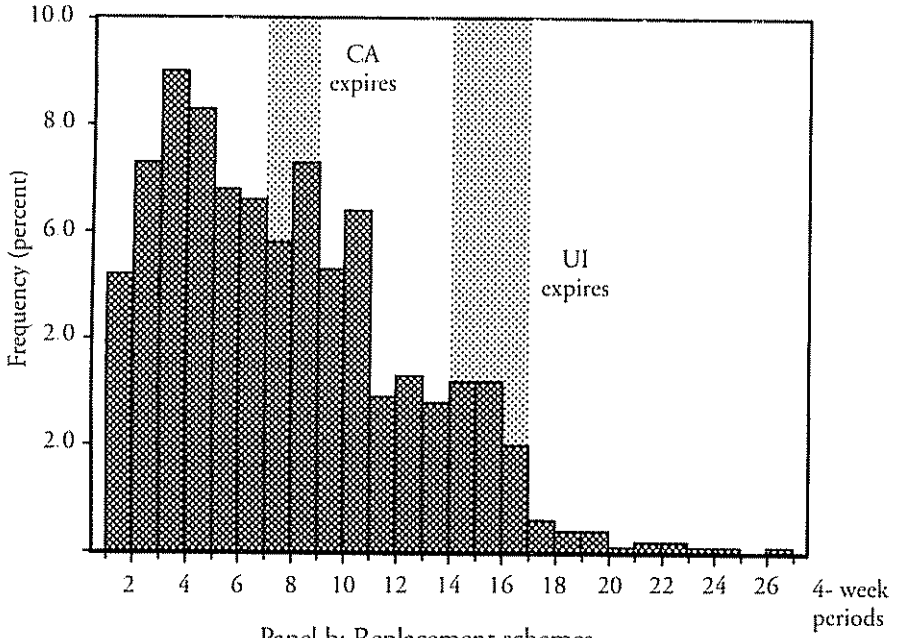
Moreover, programs seem targeted at individuals with low formal education. Individuals from big cities form a smaller proportion of participants in programs than of the openly unemployed, whereas the opposite holds for individuals from other regions. There are also differences in type of income support between categories: individuals with no benefits or CA are a smaller fraction of program participants than of the openly unemployed. The picture is the opposite for UI recipients, they form a larger fraction of program participants than of the openly unemployed. (When interpreting this, recall participation in job introduction projects is conditional on benefit eligibility.)

There are also large differences among programs as to when participation occurs. For example, a typical replacement scheme takes place after about 21 weeks of open unemployment, while the average job introduction project occurs after 42 weeks. A possible explanation for the comparatively late placement in job introduction projects is that this measure seems to have been regarded as a last resort (Government Bill 1992/93:50, supplement 7).

Our data allow us to examine the extent to which enrollment in various programs coincides with the time of exhaustion of UI benefits and CA. According to Figure 3, it cannot be ruled out that one objective of participation in a program is to renew benefit eligibility. The frequency distributions, indicating the four-week period in which participation occurs, show spikes close to the point in time when CA (at the 7.5 four-week period, i.e., at 210 days) and UI benefits (at the 15 four-week period, i.e., at 420 days) are about to expire; this pattern is clearest for participants in job introduction projects (panel c) and relief work (panel d).

Figure 3. Frequency distributions of placement in programs (4-week periods)

Panel a: Labor market training



Panel b: Replacement schemes

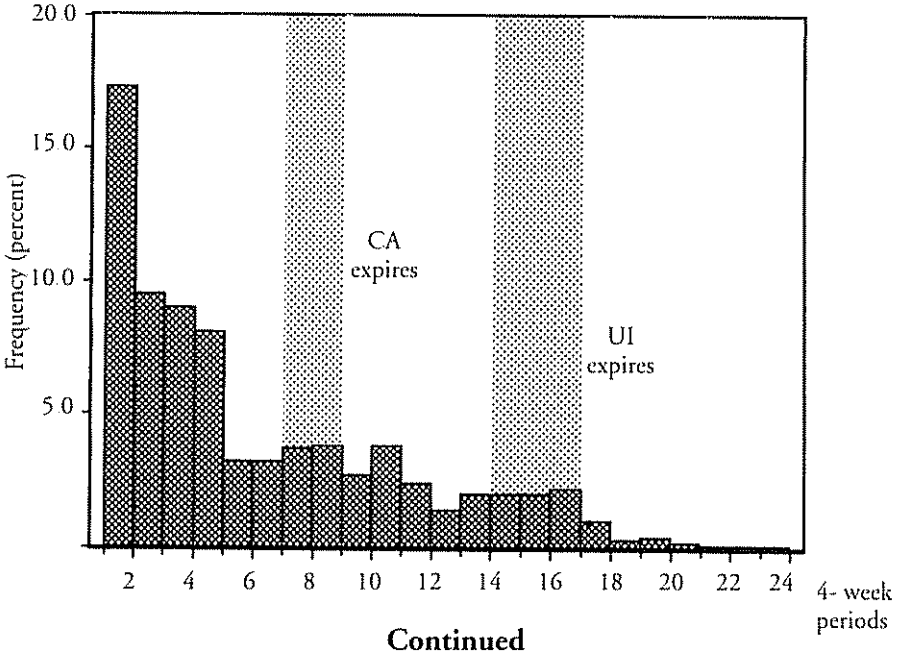


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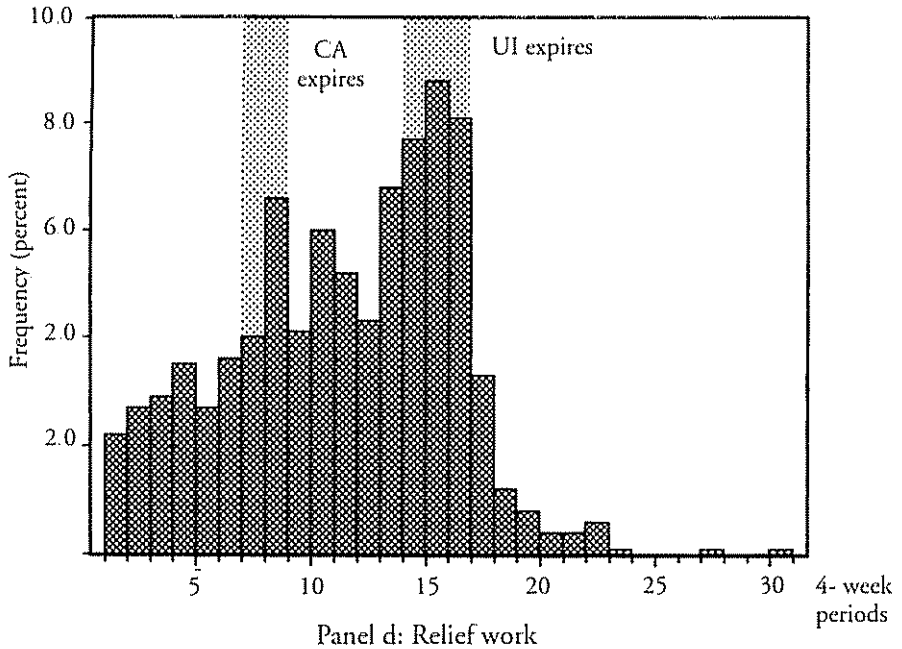
Figure 3. Continued

Panel c: Job introduction projects



Panel d: Relief work

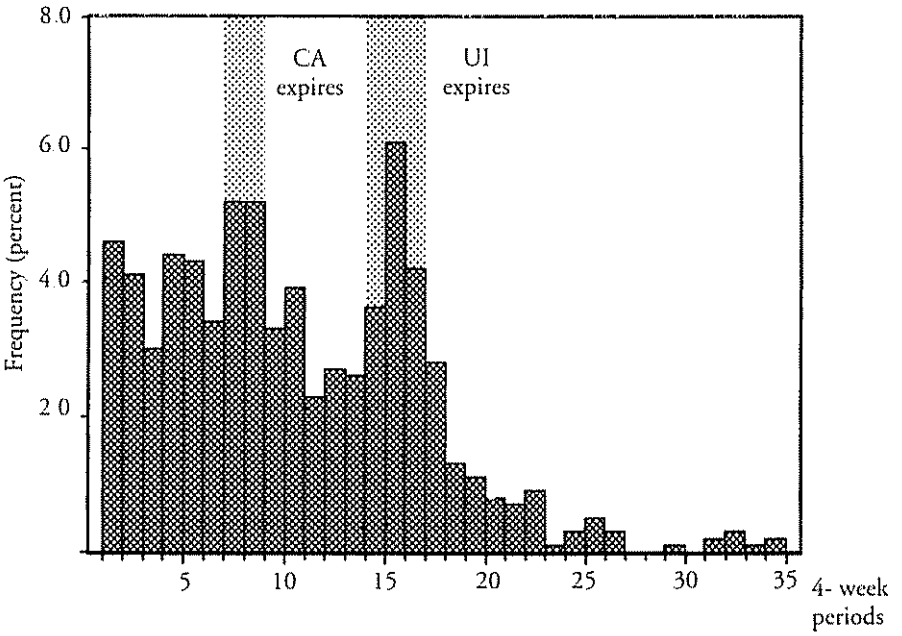


Table 2. Spell characteristics of various ALMPs

	Labor market training	Replacement schemes	Job introduction	Relief Work
Proportion of uncompleted spells:	.163	.204	.252	.231
Characteristics of completed spells:				
Mean duration (days):	91	111	130	119
Proportion of spells ending in:				
regular employment	.073	.112	.092	.095
partly unemployed	.027	.165	.060	.070
regular education	.007	.010	.0	.0
labor market programs	.019	.032	.051	.039
open unemployment	.857	626	780	.758
other	.018	.056	.017	.038
Number of individuals	876	785	862	726

Note: *Partly unemployed* include part-time employed, temporarily employed and employed but looking for a new job. *Other* include individuals no longer in contact with the employment office and placement in sheltered jobs. (Bring and Carling, 1994, investigate individuals whom the employment officers have lost track of. They conclude that about 46 percent have a regular job, while the rest are still searching as openly unemployed or program participants, or have left the labor force.)

3. Results

3.1. From participation in a program to employment

There are several ways to investigate the effects of ALMPs. The usual approach is to compare the employment probabilities or future earnings of participants and nonparticipants. This study, however, takes a somewhat different starting point, since the first issue concerns the probability of going from participation in a program to regular work, which obviously applies to participants only.

Table 2 shows spell characteristics of the four programs under study. First, note that about 21 percent of the spells are uncompleted.[6] Second, there is a difference in the average duration of spells, where duration is shor-

[6] Uncompleted spells may cause a problem in an empirical analysis. They can, for example, reflect the inclusion of individuals with serious difficulties on the labor market, and ignoring them in the regression may lead to biased estimates. However, since the uncompleted spells here occurs mainly because the sample contains individuals who began a program during the fall of 1994, the problem may not be severe.

test for labor market training (13 weeks) and longest for job introduction projects (19 weeks). Third, a high proportion of spells (averaging 76 percent) end in open unemployment. Moreover, participants in replacement schemes have the most favorable outcome. They are found to obtain a permanent or a temporary job more often and thus appear less likely to experience a second spell of open unemployment than other participants.

The results in Table 2, however, cannot distinguish whether differences among exit rates from different programs to permanent jobs depend on differences in the individual characteristics of program participants or are due to differences in the effectiveness of programs. Nor do they tell us anything about the optimal timing of placement in a program. To that end I estimated a regression equation in an attempt to explain how the probability of going directly from a program to a permanent job depends on the individual characteristics presented in Table 1, differences in income support while unemployed, days as openly unemployed until placement in a program occurs, and participation in different ALMPs. Column 1 in Table 3 presents the results. After discussing the effects of various individual characteristics on the probability of becoming employed, I move on to the effects of various labor-market policy variables, such as income support, days until placement in a program occurs and different ALMPs.

The probability of females leaving programs for a permanent job is 8.4 percent lower than for males.[7] An explanation of this difference could be that most of the new hirings during the recent recovery are in manufacturing, which is likely to favor men. The results also suggest that those over 40, especially compared with individuals in their 30s, have difficulties finding a job. Being over 40 reduces the probability of going from a program to a job by 3.7 percent. Such a negative relationship between age and employment probability has also been found elsewhere (e.g. Hamermesh, 1986; Carling *et al.*, 1994; Harkman, 1994). This has been explained by factors reflecting both employer and worker behavior. For example, employers sometimes prefer those with little, or no, experience

[7] The formula $100 \cdot f(P)\ \beta$ was used to transform the estimates in Table 3 into percentage effects, where f is the normal density function, P the probability of going from a program to work, and β the estimated parameter. When calculating P, the fact that the that data are choice-based sample was taken into account by attaching weights to the proportion of spells that end in regular employment for each program in Table 2. Here, P is calculated as ((56 650 · 0.073 + 12 682 · 0.112 + 44 564 · 0.092 + 17 082 · 0.095)/130 978) = 0.086, where the large numbers in the numerator are the average numbers of individuals in each program during 1994 and the denominator is their total. Thus, the actual $f(P)$ used was 0.1561 (see e.g. Berndt, 1991, p. 656 for details).

Table 3. Estimated equations for the probability of going directly from a program to a regular job

	Permanent job	Permanent or temporary job
Female	−.546 **	−.144 **
	(.083)	(.067)
Age − 30	.136	.292 ***
	(.100)	(.083)
Age 30 − 40	.227 **	.228 ***
	(.090)	(.078)
Swedish	.095	.364 **
	(.180)	(.163)
Education compulsory	−.213	−.201
	(.162)	(.143)
Education senior high school	−.056	.033
	(.146)	(.130)
Education university	−.067	−.018
	(.170)	(.149)
Region big city	−.004	−.012
	(.109)	(.095)
Region other	−.056	.015
	(.095)	(.082)
Experience some	−.216	−.106
	(.158)	(.130)
Experience high	−.016	.102
	(.140)	(.117)
UI	−.202 *	−.350 ***
	(.117)	(.098)
CA	−.174	−.226
	(.164)	(.137)
Days unemployed	−.0009 ***	−.0013 ***
	(.0003)	(.0002)
Labor market training	−.192 *	−.436 ***
	(.106)	(.092)
Replacement schemes	.185 *	.209 **
	(.111)	(.090)
Relief work	−.035	−.091
	(.108)	(.092)
Goodness of fit[a]	.054	.072
Sample size	2 486	2 496

Note: All regressions include a constant and the regional unemployment rate at the time a program ends. *, **, and *** indicate significance levels of 10, 5 and 1 percent. Standard errors are given in parenthesis. See the Appendix for a list and explanation of the variables.

[a] The goodness of fit measure is $(1-L_1/L_0)$. This is the log-likelihood value on a scale where 0 corresponds to a regression on a constant only and 1 to perfect prediction (a log-likelihood value of 0); see STATA (1993, p. 361).

of the work culture in other firms. Moreover, older individuals are more likely to be married and have children. This could mean that they are less flexible in the labor market.

As regards the labor-market policy variables, unemployment benefits seem to matter for employment probability. UI recipients have a 3.3 percent smaller probability of leaving a program with a permanent job than workers without any benefits. Within a search framework, the explanation would be that benefit recipients can afford to be more choosy about the jobs they accept (they have a higher reservation wage) or that they search less effectively for jobs than those without benefits.

By focusing on participants only, an analysis of the neglected issue of optimal timing of placement in a program during an unemployment spell (Calmfors, 1994a) becomes straightforward. One obvious reason for late placement is that it reduces the deadweight loss of program participation by avoiding participants who can easily find a job on the regular labor market on their own. This means that programs will be less costly and more resources can be allocated to those who have the most difficulties. But there will also be costs of late placement if they mean that there is a negative effect on employment probability. The analysis here sheds some light on optimal timing by controlling for days as openly unemployed until placement in a program occurs (DAYS UNEMPLOYED).

The estimated effect does indeed suggest a negative relationship between DAYS UNEMPLOYED and employment probability. However, the effect is not large: for each additional 10 days as openly unemployed, the probability of going from a program to a permanent job is reduced by 0.14 percent.[8]

There are several possible explanations for this negative relationship. First, it could reflect that late placement may occur to prevent an individual from losing benefits rather than as a means of enhancing employment opportunities. However, this explanation is not entirely convincing, since the negative effect remains even when I explicitly controlled for enrollment into programs close to the date of benefit exhaustion.[9] Second, as suggested by Layard *et al.* (1991), search effectiveness may decrease

[8] When allowing the effect to be nonlinear, by including DAYS UNEMPLOYED squared, the negative effect is somewhat modified. However, the effect is only significant at a 14 percent level. These and other unreported results are available from the author on request.

[9] A dummy was introduced that equals 1 if placement in programs takes place within 30 days before and after CA and UI benefit exhaustion; otherwise 0.

with the time an individual is unemployed. Such discouragement effects may also remain after participation in program. But this explanation is not supported by a recent study on Swedish data. In Ackum Agell (1995) there is little evidence that search activity is negatively related to the time the individual has been registered as unemployed with the public employment office. Third, the negative relationship could reflect that the individual loses human capital while openly unemployed. If this is the explanation, then why is it that wages do not adjust. Is it because the individual has not yet realized that he/she has to lower his/her reservation wage? Or is it that the firm is not willing to accept individuals who offer to work at a low wage rate? An interesting result in Agell and Lundborg (1994) suggests that underbidding is not at all a rare phenomenon, but that firms regularly turn down such offers. For the time being, there is no way to discriminate between these and other possible explanations.

We should also consider the possibility that DAYS UNEMPLOYED is correlated with the error term, in which case the estimated effect could be biased. For example, individuals with high probabilities of finding a job in the first place may also compete more successfully for early placement. To consider this possibility, I use the two-stage procedure developed by Smith and Blundell (1986) and Blundell and Smith (1989). This procedure controls for endogeneity by introducing the residual (RESIDUAL) from a regression of DAYS UNEMPLOYED on a set of exogenous regressors. The advantage of this method is that, besides correcting for endogeneity, it also tests for the hypothesis of exogeneity: a significant estimate of RESIDUAL suggests that the estimated effect of DAYS UNEMPLOYED is biased.[10] When the RESIDUAL variable was included (not shown) to control for the possibility of biased estimates, the coefficient proves insignificant. Thus, column 1 lists unbiased estimates.

I now turn to the variables of particular interest for this study, that is the different ALMPs. The estimated probabilities of going from a program to a permanent job seem to confirm the pattern found in Table 2. Even after controlling for individual characteristics, the results suggest that participants in temporary replacement schemes have the most favorable outcome. Substitutes in replacement schemes are estimated to have a 2.9 percent higher probability of going directly from a program to a job than participants in job introduction projects. Furthermore, a test of the hypothesis that training and relief work have the same effect on employ-

[10] The Smith-Blundell estimator is discussed in more detail in the Appendix.

ment probability as replacement schemes is strongly rejected for training and weakly for relief work.[11]

There are, of course, several possible explanations as to why substitutes in replacement schemes are more likely to go from the program to a permanent job than participants in other ALMPs. For example, compared with labor market training, replacement schemes take place in the regular labor market, with perhaps greater opportunities to make useful contacts and find out about vacancies. The advantage as compared with relief work and job introduction projects could be that the task undertaken in replacement schemes is always meaningful, since it replaces another individual's ordinary work. (Recall that both relief work and job introduction projects should not replace ordinary jobs. The consequence may be that these programs are unable to provide the individual with useful work experience.) Another explanation for the results could be that they reflect differences in search activity among participants in different programs. However, circumstantial evidence in Ackum Agell (1995) does not support that hypothesis. On the contrary individuals in replacement schemes search less than participants in other programs: about 37 percent in replacement schemes said that they actively searched for work. The corresponding figures are 43 percent for participants in relief work, 54 percent for those in labor market training, and as high as 77 percent for those in job introduction projects. Moreover, it could be that replacement schemes attract individuals with high probabilities of finding a job in the first place. If the explanatory variables are insufficient to capture this difference in "ability", the effect of replacement schemes is overestimated.[12]

Job introduction projects are the most conspicuous example of the tendency during the recent recession to initiate large-scale programs which cost little per head. As pointed out in e.g. OECD (1993), there is

[11] The specific statistics are $\chi^2_{(1)} = 12.76$ for training and $\chi^2_{(1)} = 3.84$ for relief work; the latter result implies that the hypothesis is rejected at the 5 percent level.

[12] Evaluation of the effect of program participation on future labor market prospects always encounter the problem of sample selection, i.e., do the estimates solely reflect the effect of participating in a program or do they also capture inherent differences in individual characteristics among participants in different programs or differences between participants and nonparticipants? Specific techniques have been developed to solve this problem. They usually involve incorporating the enrollment decision into the estimated equation, e.g. the decision whether or not to participate in an ALMP (see e.g. Heckman, 1979). However, for the estimation techniques used in this study, there are no well-developed procedures to handle the problem of self-selection. Thus, if the regressor set included is insufficient to capture any inherent differences in individual characteristics that also affect the employment probability, then the estimated effects are biased.

some evidence that such large-scale, low-budget measures may be less efficient than more expensive ones. Our results on this issue are not clear-cut. On one hand, the finding that replacement schemes increase employment probability more than job introduction projects is consistent with the earlier evidence. On the other hand, we found no statistically significant differences when comparing relief work with job introduction projects despite the fact that relief work involves fewer individuals at a higher cost per head.

Finally, it should be pointed out that the regressor set does not explain much of the variation in the dependent variable. But this does not necessarily imply that the estimated effects are unreliable. As long as the explanatory variables are uncorrelated with the error term, the estimated effects are unbiased.

The results reported so far refer to the probability of going from a program to a *permanent* job. This approach may seem unduly restrictive, since it neglects temporary and part-time employment. It should be borne in mind that most new hirings during the recent recovery are temporary. Column 2, therefore, presents results when the dependent variable is extended to include these types of employment. The negative effect of being a female, as compared with being a male on the employment probability, is then reduced by more than half (from 8.5 to 3.2 percent) of its previous effect.[13] This may not come as a surprise, since females are overrepresented in part-time employment. Circumstantial evidence in Ackum Agell (1995) shows that about 75 percent of all new hirings of females during the recent recovery are temporary. We note that young individuals, and in particular those under 30, are more prone to becoming employed in temporary jobs. Compared with those over 40, the youngest cohort has a 6.6 percent higher estimated employment probability. Swedish citizens have an estimated probability of leaving a program with a job that is 8.2 percent higher than for a participant with foreign citizenship.

It seems as if the negative effect on employment probability for benefit recipients is stronger when temporary jobs are considered. First, compared with column 1 in Table 3, the coefficient of UI more than doubles: UI recipients now enter a job directly from a program at a 7.8 lower probability than workers without benefits. Second, there is a significant difference between workers with CA and workers without benefits. CA recipients have a 5.1 percent lower employment probability than individuals

[13] The actual $f(P)$ used here is 0 2251; see footnote 12 for details.

with no benefits. This supports the view that individuals with unemployment benefits can afford to be choosy about what job to accept. However, this finding could, at least to some extent, reflect the rules of the unemployment benefit system. If an individual is approaching the time when benefits are about to expire, and renews his/her benefits through a temporary job on the regular labor market, there will be a qualifying time of one week (*karensvecka*) until he/she receives new benefits. If the individual instead renews benefits through participating in an ALMP which is classified as a training scheme (such as labor market training or job introduction projects), there is no qualifying time.

The coefficient of DAYS UNEMPLOYED still suggests a negative relationship between the probability of going directly from a program to a regular job and the time until placement occurs. The point estimate indicates that the effect here is larger than in column 1: for each additional 10 day as unemployed before placement in a program, the employment probability is reduced by 0.3 percent.[14]

When turning to the ALMP variables, we note that the differences in employment probabilities among different programs are larger when both permanent and temporary jobs are considered. Participants in replacement schemes go to a job at a 4.7 percent higher probability than participants in job introduction projects. Furthermore, a test of the hypothesis that labor market training and relief work have the same effect on employment probability as replacement schemes is now strongly rejected for both labor market training and relief work.[15] The results also suggest that participants in job introduction projects are more likely to take temporary jobs than those who participate in labor market training or relief jobs.

3.2. Unemployment duration

The probability of going directly from participation in a program to a job is a rather narrow measure of how ALMPs work. Therefore, we now extend the analysis and look at the overall exit rate to a regular job during a longer period after participating in a labor market program.

[14] When accounting for the possibility of a nonlinear relationship between the employment probability and DAYS UNEMPLOYED, the negative impact is furthermore reduced; the effect is statistically significant at a 1 percent level. When investigating the possibility of endogeneity bias by introducing the RESIDUAL variable, the estimated coefficient proved insignificant

[15] The test statistics are ($\chi^2_{(1)} = 51.81$) for training and ($\chi^2_{(1)} = 10.13$) for relief work.

Table 4. Characteristics of open-unemployment spells that follow participation in an ALMP

	Labor market training	Replacement schemes	Job introduction	Relief work
Proportion of uncompleted spells	.468	.512	.616	.558
Characteristics of completed spells:				
Mean duration (days):	83	74	87	87
Proportion of spells ending in:				
regular employment	.247	.165	.230	.202
partly unemployed	.159	.287	.187	.162
regular education	.043	.039	.015	.009
labor market programs	.455	.274	.381	.467
other	.097	.145	.188	.158
Number of individuals	733	625	645	558

Note: See Table 2.

Table 4 presents characteristics of the unemployment spell that follows participation in a program. Again, substitutes in replacement schemes seem to fare better than the participants in other types of programs. Their mean spell of unemployment after completing the program is one week shorter than for participants in other ALMPs (averaging 11 instead of 12 weeks), and about 45 percent of the substitutes seem to find a job within this spell (the average is 40 percent for participants in other programs).

As in Section 3.1, an econometric analysis is required to distinguish the effects of participation in a program from the effects of variations in the characteristics of the participants. Thus, I have ran a regression in an attempt to explain the number of days until an unemployed individual gets a permanent job after participation in a program by individual characteristics, differences in income support, days until program placement occurs, and participation in different ALMPs. The analysis also took into consideration that some regressors vary over time. To that end, age and the regional unemployment rate (not shown) were allowed to vary by monthly observations.

Table 4 shows that around 50 percent of the spells were uncompleted at the time of sampling. Since this may lead to biased estimates (as discussed in footnote 10) I chose an estimation technique that remedies this by explicitly accounting for the uncompleted spells.[16] Table 5 presents

[16] Specifically, I used the Cox proportional hazards model augmented for the possibility of uncompleted spells (see STATA, 1993, pp. 246–247 and Lawless, 1982). The Cox model is briefly described in the Appendix.

the results. Column 1 refers to program participants and permanent hirings only. We note that females exit to a permanent job at a 28 percent lower rate than males.[17] Younger individuals appear to find a permanent job much more quickly than older workers. In particular, those under 30 exit to a permanent job at a 39 percent higher rate than those over 40. Individuals with high experience escape unemployment at a 72 percent higher rate than those with no experience in the job for which they apply.

As regards, the labor-market variables, the exit rate to a permanent job is 0.18 percent lower for each additional day as openly unemployed before participation in program. When we allowed for the participants in different ALMPs to find a regular job over a longer period of time, and not just in connection with leaving the program, we see that the pattern from Table 3 is somewhat changed. According to Table 5 participants in labor market training seem to be best off: they enter a permanent job at a 80 percent higher rate than participants in job introduction projects. The corresponding figure for participants in replacement schemes is 53 percent. However, a test of the hypothesis that the effect on the exit rate is equal for participants in training and replacement schemes is not rejected at a conventional level.[18]

Temporary employment is incorporated into the analysis in column 2 of Table 5, which reports results for the time before a participant in a program exits to either a permanent or a temporary job. A few dissimilarities to the earlier results are worth noting. The duration of unemployment is no longer dependent on gender. An increase in human capital affects the exit rate: individuals with a university degree enter regular employment at a 55 percent higher rate than those with low education and those with high experience of the job that they are looking for escape unemployment at a 77 percent higher rate than those without any experience. These results on the importance of human capital for the exit to a regular job square well with the findings of e.g. Carling *et al.* (1994) and Harkman (1994).

When we incorporate temporary jobs in to our analysis, participants in replacement schemes regain their favorable position: they exit to a regular job at a 113 higher rate than those who participate in job introduction projects. The results thus suggest that substitutes in replacement schemes exit to a temporary job more quickly than other program partici-

[17] The formula $100\cdot[\exp(b)-1]$, where b is the estimated parameter of interest, is used to transform estimates into percentage effects.

[18] The test statistic is $(\chi^2_{(1)}=0.5)$.

Table 5. Estimated equations for the number of days until an unemployed individual gets a regular job

	Participants only		Participants and nonparticipants	
	Permanent job	Permanent or temporary job	Permanent job	Permanent or temporary job
Female	−.328 *	.015	−.333 **	−.061
	(.184)	(.130)	(.137)	(.107)
Age − 30	.332 *	.233 *	.237	.239**
	(.199)	(.138)	(.154)	(.118)
Age 30 − 40	.220	−.021	.244 *	.052
	(.178)	(.127)	(.142)	(.111)
Swedish	.024	.386	.003	.261
	(.313)	(.256)	(.232)	(.204)
Education compulsory	−.069	.013	−.228	−.084
	(.319)	(.223)	(.260)	(.199)
Education senior high school	.022	.037	.099	.117
	(.295)	(.208)	(.238)	(.184)
Education university	.536	.439 *	.571 **	.454 **
	(.352)	(.246)	(.280)	(.216)
Region big city	−.082	−.077	−.123	−.120
	(.208)	(.148)	(.156)	(.124)
Region other	−.189	−.118	−.277 *	−.195 *
	(.184)	(.129)	(.146)	(.111)
Experience some	.135	.295	.290	.263
	(.358)	(.245)	(.252)	(.200)
Experience high	.544 *	.570 ***	.592 **	.538***
	(.319)	(.222)	(.234)	(.185)
UI	−.107	.029	−.461 **	−.248 *
	(.283)	(.198)	(.192)	(.156)
CA	.094	.102	−.310	−.107
	(.352)	(.258)	(.239)	(.201)
Days unemployed	−.0018 ***	−.0017 ***		
	(.0006)	(.0004)		
Labor market training	.587 ***	.558 ***	−.935 ***	−.420***
	(.185)	(.138)	(.147)	(.124)
Replacement schemes	.428 *	.755 *	−1.097 ***	−.150
	(.239)	(.153)	(.205)	(.136)
Relief work	.234	.291 *	−1.449 ***	−.830***
	(.217)	(.158)	(.189)	(.148)
Job introduction			−1.384 ***	−.764 ***
			(.170)	(.137)
Goodness of fit[a]	.028	.020	.044	.016

Note: All regressions include the regional unemployment rate and occupational dummies. *, **, and *** indicate significance levels of 10, 5 and 1 percent. Standard errors are given in parenthesis. See the Appendix for a list and explanation of the variables.

[a] See Table 3.

pants. The most likely explanation is that substitutes are more often offered a temporary job at the workplace where they replaced an ordinary worker in education.

So far the analysis has concentrated on a comparison of participants in different programs. It is also important to compare participants in ALMPs with nonparticipants if we want to evaluate the benefits of substituting programs for open unemployment. To that end I estimated a regression on a pooled sample of participants and nonparticipants, according to which the number of days until an unemployed individual gets a permanent job is explained by individual characteristics, differences in income support, and participation in different ALMPs.

Nonparticipants (the control group) are those who are openly unemployed for a while and then find a job without ever participating in an ALMP. The dependent variable for the control group is thus days as openly unemployed until a regular job is found. For participants in a program the dependent variable is days unemployed until a permanent job is found that *follow* participation in an ALMP.

Columns 3 and 4 in Table 5 present the results. Let us concentrate on the results of participation in an ALMP and the effect on the exit rate to a permanent or temporary job (column 4). The hypothesis that participation in a program has a positive effect is rejected. All participants in programs are unemployed longer before they find a job than nonparticipants: individuals in replacement schemes escape unemployment at a 14 percent lower rate than nonparticipants (though the effect is not statistically significant). The corresponding figures are 34 percent for labor market training, 53 percent for job introduction projects, and 56 percent for relief work.

Thus, according to the estimates, there appears to be a *negative* effect of participation in ALMPs. How can this be explained? One possibility is that individuals with the most difficulties in the first place are selected for ALMPs. If the regressor set is unable to control for these "worse" characteristics, the estimated effects of participation are biased downward. Another possible explanation is that search activity may decrease with the time an individual is without a *regular* job. (This is important because those who participate in programs display on average, a longer total time without a regular job than non-participants.) However, Ackum Agell (1995) finds little support for a relationship between search activity and the duration of unemployment. An additional explanation may be found in the behavior of employers. Evidence in e.g. Colbjørnsen *et al.* (1992)

and Agell and Lundborg (1994) shows that unemployment may be stigmatizing. Agell and Lundborg find that employers prefer to employ individuals with no experience of unemployment than openly unemployed or participants in programs. Colbjørnsen *et al.* report evidence that employers are not reluctant to employ anyone who has been unemployed for about six month, but longer unemployment spells give a negative signal. Moreover, the overall magnitude of the ALMPs may create inefficiencies at the margin, as discussed in e.g. OECD (1993). The National Labor Market Board (*Arbetsmarknadsstyrelsen*) has argued for several years in the public debate that the magnitude of today's activities cannot be maintained without great efficiency losses.

Finally, a test of the hypothesis that the number of days before exit to regular employment is equal among programs is strongly rejected.[19] More specifically: (i) relief work and job introduction projects seem to have the same impact on the exit rate and (ii) participants in labor market training seem to be better off than those in relief work and job introduction projects but not in level with participants in replacement schemes.

4. Concluding remarks

The main objective of this paper has been to increase our understanding of how ALMPs have worked during the recent recession in Sweden. The principal results can be summarized as follows.

(i) In general, participants in replacement schemes are better off than participants in the other programs under study. This result squares well with the findings in Harkman (1994). It may be explained by the fact that replacement schemes take place in the regular labor market, with greater opportunities to make useful contacts and find out about vacancies. In addition, since the substitute performs an ordinary task, the work experience obtained should be of considerable value.

(ii) The effect of ALMPs on an individual's future labor market prospects appears smaller, the later placement in a program occurs. Several explanations for this result were suggested. The first set concerns the behavior of the unemployed. For example, late placement may be used to prevent be-

[19] The test statistic is ($\chi^2_{(3)} = 25.14$).

nefit exhaustion, with little emphasis on improving the individual's future labor market prospects, or search activity may decrease with time unemployed. These explanations find little support, however, when the regressions were modified so as to take the first possibility into account and the latter explanation seems to contradict the findings in other studies. Another set of explanations concerns the behavior of employers. For example, results in Agell and Lundborg (1994) suggest that underbidding by unemployed workers is not uncommon, but that firms usually turn down such offers. Moreover, Colbjørnsen *et al.* (1992) find that employers are reluctant to hire workers who have been unemployed for more than six months.

(iii) It is not clear whether low-budget, large-scale programs are less efficient than others. For example, job introduction projects performed no worse than traditional relief work, despite the fact that the former costs less per head and involves more individuals.

(iv) Differences in income support while unemployed matter for the employment outcomes. This effect is, in some specifications, particularly strong when transitions to regular employment also includes temporary jobs. This finding is troublesome since the acceptance of temporary jobs during an unemployment spell is likely to increase the individual's probability of obtaining a permanent job in the future, as shown by Harkman (1994). Within a search framework, this can be explained by the fact that UI recipients can afford to be more choosy about what job they accept (they may also be less active in their search for a new job). However, the result that UI recipients seem especially reluctant to accept temporary jobs may also reflect the rules of the unemployment benefit system.

(v) The hypothesis that the overall volume of programs may introduce inefficiencies seems to be supported by my findings. Participants in the four ALMPs examined seem to exit to regular employment at a lower rate to regular employment than nonparticipants. Such a negative effect from participating in labor market training has also been found in Regnér (1993).[20]

[20] However, the negative effect found in Regnér turns positive for low-skill groups after a modification of the estimated equation (Edholm and Nilses, 1995).

Perhaps the negative effect of participation in ALMPs is the most disappointing finding. However, this result should be interpreted with cautions. It could reflect sample selection bias: if program participants have the most difficulties in finding a job in the regular labor market in the first place and if these "worse" characteristics are not captured by the regressor set, the estimated effect of participation in a program is downward biased. It is also likely that during the deep recession in Sweden there has been little emphasis on formulating strategies for increasing the unemployed individual's future labor market prospects; the formulation of individual strategies has proved efficient in other studies (such as Sehlstedt and Schröder, 1988). Instead, ALMPs may have been used mainly to break long spells of unemployment (which, of course, has a value in itself) and to renew benefit eligibility. If these interpretations are correct, the results are not so alarming. But if the results instead capture negative reputation effects of participation in a program (signaling low productivity to employers, as found by Agell and Lundborg, 1994) or reflect basic inefficiencies in the design of the programs, the results are indeed worrisome.

Appendix

1. List of variables[21]

Female	1 if female; otherwise 0
Age – 30	1 if younger than 30; otherwise 0
Age 30 – 40	1 if aged 30 to 40; otherwise 0
Swedish	1 if Swedish citizen; otherwise 0
Education compulsory	1 if compulsory level of education; otherwise 0
Education senior high school	1 if senior high school diploma; otherwise 0
Education university	1 if a university degree; otherwise 0
Region big city	1 if living in the Stockholm, Gothenburg or Malmö region; otherwise 0
Region other	1 if living in a region other than a big city or forest region; otherwise 0
Experience some	1 if some experience in the job the individual is looking for; otherwise 0
Experience high	1 if high experience in the job the individual is looking for; otherwise 0
UI	1 if receiving unemployment insurance benefits; otherwise 0
CA	1 if receiving cash assistance (*kontant arbetsmarknadsstöd*); otherwise 0
Days unemployed	number of days openly unemployed before participating in an ALMP
Labor market training	1 if participation in labor market training; otherwise 0
Replacement schemes	1 if participation in replacement scheme; otherwise 0
Relief work	1 if participation in relief work; otherwise 0
Job introduction projects	1 if participation in job introduction projects; otherwise 0

[21] The reference category is a male, over 40, with foreign citizenship, low formal education, living in a forest region, no experience in the job he is looking for, and not receiving any form of unemployment compensation.

2. Smith-Blundell two-stage technique

The idea behind the two-stage technique is that instead of using the predicted value of days unemployed in the regression, as is the case in the usual two-stage procedure, the following equations were estimated:

$$y = \alpha + \beta' X + \gamma \text{DAYS UNEMPLOYED} + \theta \text{RESIDUAL} + \varepsilon \qquad (1)$$

and

$$\text{RESIDUAL} = \text{DAYS UNEMPLOYED} - \delta' Z, \qquad (2)$$

where y is the dependent variable of interest, X a set of regressors that explains y, RESIDUAL is the error term in an ordinary least-squares regression of DAYS UNEMPLOYED, and Z a vector of exogenous variables that explains DAYS UNEMPLOYED. The advantage of this method is that, besides correcting for endogeneity, it tests the hypothesis of exogeneity and gives an indication of the direction of the bias: a significant θ in equation (1) suggests that endogeneity of DAYS UNEMPLOYED is a problem. A positive (negative) sign of θ implies that γ will be biased upward (downward) if the RESIDUAL variable is not included. This two-stage technique relies on the assumption of joint normality in the first and second stages.

The elements of Z were assumed to be the total regional unemployment rate during the quarter the individual registers as unemployed and a seasonal dummy that equals 1 if the individual registers as unemployed in December or the period May–August. (The extent of programs is reduced during Christmas and the summer; it could therefore be anticipated that placement in programs might be postponed.)

3. Duration model

In the Cox estimation technique the unemployed individual is assumed to find a regular job at every point in time. That event is summarized in the instantaneous failure, or hazard, function:

$$h(t) = \frac{\text{Probability of finding a job between times } t \text{ and } t + \Delta t}{(\Delta t)(\text{Probability of finding a job after time } t)} =$$

$$h_0(t) e^{\beta_1 x_1 + \cdots + \beta_k x_k}$$

A Cox regression estimates the coefficients $\beta_1 \ldots \beta_k$. The impact of a change in the explanatory variable x_r on the exit rate to a regular job is $e^{\beta_r \Delta x_r}$. Note that in this parameterization, the hazard is proportional to the baseline hazard function $h_0(t)$, which can have any shape and is never estimated. This means that I was not able to consider the issue of duration dependence. However, I do not regard this as a serious drawback, since the main focus in this study is on how program participation affects the probability of getting a job.

References

Ackum, S. (1991), Youth Unemployment, Labor Market Programs and Subsequent Earnings, *Scandinavian Journal of Economics* 93, 531–543

Ackum Agell, S. (1995), Search Activity by Unemployed Workers in Sweden, mimeo, Department of Economics, Uppsala University

Ackum Agell, S., A. Björklund and A. Harkman (1995), Unemployment Insurance, Labour Market Programs and Repeated Unemployment in Sweden, this issue

Agell, J. and P. Lundborg (1994), Theories of Pay and Unemployment: Survey Evidence from Swedish Manufacturing Firms, *Scandinavian Journal of Economics* 97, 295–307

Axelsson, R. (1989), Svensk arbetsmarknadsutbildning – en kvantitativ analys av dess effekter, Ph.D. Dissertation, University of Umeå

Berndt, E. (1991), The Practice of Econometrics: Classic and Contemporary (Addison Wesley, New York).

Björklund, A. (1990), Evaluations of Swedish Labor Market Policy, Finnish Economic Papers 3, 3–13

Blundell, R. and R. Smith (1989), Estimation in a Class of Simultaneous Equation Limited Dependent Variable Models, Review of Economic Studies 56, 37–58.

Bring, J. and K. Carling (1994), Attrition and Misclassification of Drop-Outs in the Analysis of Unemployment Duration, Research Report No. 1994:6, Department of Statistics, Uppsala University

Brännäs, K. and M. Eriksson (1994), Enrolment in Labour Market Training Programs, Umeå Economic Studies 364, Department of Economics, University of Umeå

Calmfors, L. (1994a), Active Labor Market Policy and Unemployment – a Framework for the Analysis of Crucial Design Features, OECD Economic Studies 22, 7–47

Calmfors, L. (1994b), What Can Sweden Learn from the European Unemployment Experience? An Introduction, Swedish Economic Policy Review 1, 5–26

Carling, K., P.-A. Edin, A. Harkman, and B. Holmlund (1994), Unemployment Duration, Unemployment Benefits, and Labor market Programs in Sweden, forthcoming in Journal of Public Economics.

Colbjørnsen, T., S.-Å. Dahl and H.-T. Hansen (1992), Langtidsarbeidsloshet. Årsaker, konsekvenser og mestring, SNF-rapport No. 83/1992, Stiftelsen for Samfunns og Näringslivsforskning, Bergen.

Edholm, C. and M. Nilses (1995), Avkastning av arbetsmarknadsutbildning – en studie på individnivå, Undergraduate Thesis, Department of Economics, Uppsala University.

Edin, P.-A. (1989), Unemployment Duration and Competing Risk: Evidence from Sweden, Scandinavian Journal of Economics 91, 639–653.

Edin, P.-A. and B. Holmlund (1994), Arbetslösheten och arbetsmarknadens funktionssätt, Bilaga 8, Långtidsutredningen 1994 (Fritzes, Stockholm).

Forslund, A. (1992), Arbetslöshet och arbetsmarknadspolitik, Bilaga 7, Långtidsutredningen 1992 (Allmänna Förlaget, Stockholm).

Forslund, A. and A. Krueger (1994), An Evaluation of the Swedish Active Labor Market Policy: New and Received Wisdom, NBER Working Paper No. 4802.

Gramlich, E. and B.-C. Ysander (1981), Relief Work and Grant Displacement in Sweden, in: G. Eliasson *et al.* eds. Studies in Labor Market Behavior (IUI, Stockholm) 139–166.

Hallström, N.-E., (1994), Genomförandet av åtgärden arbetslivsutveckling (alu). En studie i sex kommuner i tre län, mimeo, Department of Culture and Social Sciences, Linköping University.

Hamermesh, D. (1986), Demand for Labor, in: O. Ashenfelter and R. Layard eds., Handbook of Labor Economics (North-Holland, Amsterdam) 156–245.

Harkman, A. (1994), Arbetslöshet, arbetsmarknadspolitiska åtgärder och chansen att få jobb, National Labor Market Board, Work Report No. 1994:8.

Heckman, J. (1979), Sample Selection Bias as a Specification Error, Econometrica 47, 153–162.

Heckman, J. and R. Robb, (1985), Alternative Methods for Evaluating the Impact of Interventions, in: J. Heckman and B. Singer eds. Longitudinal Analysis of Labor Market Data (Cambridge University Press, Cambridge) 156–245.

Jackman, R. (1994), What Can Active Labour Market Policy Do?, Swedish Economic Policy Review 1, 221–257

Korpi, T. (1994), Effects of Manpower Policies on Duration Dependence in Reemployment Rates – the Example Sweden, Swedish Institute for Social Research, Stockholm University

Lawless, J. F. (1982), Statistical Models and Methods for Lifetime Data (Wiley, New York).

Layard, R., R. Jackman and S. Nickel (1991), Unemployment: Macroeconomic Performance and the Labour Market (Oxford University Press, Oxford).

OECD (1993), Employment Outlook.

Regnér, H. (1993), Choosing Among Alternative Non-Experimental Methods for Estimating the Impact of Training: New Swedish Evidence, Report No. 8/1993, Swedish Institute for Social Research, Stockholm University.

Sehlstedt, K. and L. Schröder (1988), Språngbräda till arbete? EFA (Allmänna förlaget, Stockholm).

Skedinger, P. (1995), Displacement Effects of Employment Policies in the Youth Labour Market, this issue.

Smith, R. and R. Blundell (1986), An Exogeneity Test for the Simultaneous Equation Tobit Model with an Application to Labour Supply, Econometrica 54, 679–685.

STATA (1993), Reference Manual: Release 3.1, 6th edition (College Station, Texas).

SOU (1993:43), Politik mot arbetslöshet, EFA (Allmänna Förlaget, Stockholm).

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Comment on Susanne Ackum Agell: Swedish Labor Market Programs: Efficiency and Timing

Karl-Gustaf Löfgren*

I like this paper very much. It deals with three relevant aspects of labor market programs – success, optimal timing, and success of participation versus nonparticipation. The author has access to what appears to be an excellent data source. The sample is drawn in such a way as to avoid so-called length-bias sampling (if the stock is sampled, short spells will be underrepresented), and the statistical analysis is conducted in a competent manner. One way in which the analysis might be improved would be by generating data by random sampling, although the number of observations would have to be increased considerably.

The results seem to be rather discouraging for the future applicability of an active labor market policy in Sweden. First of all, it would appear that it is actually disadvantageous to participate in labor market programs in the sense that it takes participants longer than nonparticipants to find a job. In other words, there are no – or even negative – treatment effects. Moreover, it does not seem to matter whether the individual is admitted to a labour market program early or late during his/her period of unemployment; the employment probabilities remain essentially the same. The only comfortingly unambiguous result is that the different programs can be ranked according to their effects with respect to future labor market prospects: those in replacement schemes are better off than participants in other kinds of labor market programs.

Let me, however, try to reintroduce some hope for the adherents of an active labor market policy. Fist of all, what can labor market policy do? Obviously, it cannot create new permanent jobs. During the last reces-

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sion there were, on average, 45 unemployed per vacancy in Sweden. I would venture to guess that the rate of return on, say, labor market training is very low in such a situation. I cannot, however, come up with any additional explanation as to why people who have completed active labor market programs would do worse than nonparticipants. The most probable reason is perhaps that we do not have the appropriate explanatory variables to control for selection bias. Common sense tells us that twins are twins, even if one of them has spent six months in a labor market program.

I have elsewhere claimed that labor market policy is more or less important in a deep recession like the present one in the sense that it cannot turn the tide (Löfgren, 1993). Labor market programs must under such conditions be supported by demand stimulating fiscal policies. In addition the belief, indirectly revealed by the policy mix during the latest recession, that labour market training is "the most efficient program" is certainly dubious for similar reasons. Moreover, as also suggested by the National Labor Market Board, the scale of the programs has been excessively high and may have made the policy inefficient.

However, to move from our present stance on active labor market policy all the way to a world where there are no labor market programs would be a mistake. Fist of all, Ackum Agell's data set is collected during a period of extreme labor market conditions and, as such, is interesting, but data from more normal business conditions would very likely generate different results. Moreover, the explanatory power of the regression equations is not impressive. This is typical for cross-section material, and the inference in terms of significant coefficients is nonetheless valid. However, to conduct a "reverse policy experiment", by abandoning labor market policy altogether, basing the decision on regressions run to evaluate a certain aspect (unemployment durations) of labor market policy, and where 95 percent of the residual variation remains unexplained, would very likely be a severe mistake. There are, after all, other unwanted social consequences of having 15 percent of the labor force in open unemployment. I think the paper has the additional virtue of not jumping to policy conclusions of this extreme character.

Reference

Löfgren, K.-G. (1993), Arbetsmarknads- och stabiliseringspolitik i otakt, in: B. Holmlund *et al*., eds., Arbetsmarknadspolitik på nya vägar (Fritzes, Stockholm).