Article

Active labour market programmes in Norway: are they helpful for social assistance recipients?

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Summary This paper examines whether active labour market programmes (ALMPs) directed to the most disadvantaged in Norway are helpful in moving them from social assistance to self-sufficiency (i.e. work, earnings, and decent income). The study focuses on programme packages that integrate several components and are especially targeted at the disadvantaged unemployed. Nine such programme packages are evaluated. Thus, nine comparison groups are formed, one for each intervention group. Both groups are derived from the pool of the entire population of social assistance recipients registered in 1995. The study adopts a quasi-experimental design. To handle selection bias, a matching procedure based on a propensity-score approach is applied. The results indicate that most of the programme packages yield a positive and, in most cases, significant effect on subsequent employment and earnings, both in the short and in the long run, that is, up to five years later.

Key words active labour market policies, effect evaluation, Norway, social assistance recipients

Résumé Cet article examine dans quelles mesures des programmes d'activation du marché du travail dirigés vers les personnes les plus désavantagées en Norvège les aident à passer de l'assistance sociale à «l'autosuffisance» défini comme – travail, salaire et revenus décents –par le Parlement norvégien. Notre étude se centre sur des programmes complexes qui intègrent différentes composantes et qui visent particulièrement les chômeurs les moins avantagés. Nous évaluons neuf de ces programmes. Nous avons également formé neuf groupes comparables, un pour chaque programme. Chaque groupe a été délimité à partir d'une enquête portant sur l'entièreté des bénéficiaires de l'assistance sociale en 1995. Notre étude adopte un modèle quasi expérimental. Pour faire face aux risques de biais de sélection, une procédure d'appareillement a été appliquée. Les résultats montrent que la plupart des programmes ont un effet positif et dans la plupart des cas un effet significatif sur l'emploi et les revenus tant à court qu'à long terme, c'est-à-dire jusqu'à 5 ans plus-tard.

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One of the most significant policy shifts in the Western welfare states during the 1990s has been the increased emphasis on activation, that is, active measures intended to bring welfare recipients back to work (Gilbert, 2002; Gilbert and Van Voorhis, 2001; Lødemel and Trickey, 2001; Martin, 2000). This trend has revived an interest in how these activation programmes work and whether they produce the intended benign effects. Effect-evaluation studies have a fairly long tradition in the USA where so-called demonstration projects including rigorous evaluations have been going on since the mid-1980s. Until recently, however, with a few exceptions, European countries have been lagging in this respect (Martin, 2000).

In Norway, various aspects of the impact of active labour market programmes (ALMPs) targeted at the insured unemployed have been extensively examined over the last decade (Aakvik, 1998; Raaum et al., 2002a; 2002b). However, the impact of active measures directed towards more disadvantaged groups such as social assistance recipients have attracted far less attention among researchers. This is an unfortunate situation, first because activation measures targeted at disadvantaged individuals are growing and will broaden their scope in the future according to recent policy initiatives (St.meld. nr. 50 [1998–9]; Innst. S. nr. 222 [1998–9]); and, second, because the Norwegian government, along with EU and other individual EU member states, has claimed that social policy should be 'knowledge based' (St.meld nr. 6 [2002–3]). Thus, there is a need for evaluation research on how these programmes, and what types of programmes, influence self-sufficiency among social assistance recipients.

This paper brings results from a quasi-experimental effect evaluation study of ALMPs in Norway. We address three research questions:

1. Does participation in an ALMP increase the participating social assistance recipients' work activity and earnings?
2. How many participants experience earnings below decent income as defined by Parliament?
3. Do the effects vary according to the type of scheme the claimants are participating in?

This paper draws on two strands of knowledge: new perspectives on social problems and social policies in western welfare states, and recent developments in econometrics to deal with selection bias in quasi-experimental designs – the so called propensity score matching method. In evaluations of active programmes targeted at disadvantaged groups in Norway and in other European countries as well, more rigorous evaluation methods are rarely applied (Dahl and Pedersen, 2001).

The 'new' activation policies

The increased emphasis on work and activation is part of an international ideological shift in the thinking about social welfare (Deacon, 2002; Gilbert and Van Voorhis, 2001; Gilbert, 2002; Lødemel and Trickey, 2001). It stems from a widespread concern over long-term and 'passive' receipt of welfare benefits. Often this concern is rooted in the belief that the role as a client and a recipient of benefit in itself undermines responsibility, autonomy, independence and self-sufficiency and may cause idleness, passivity and dependence. Thus, a more active or demanding orientation towards the recipients is called for. Different varieties of activation schemes are seen as one of the major vehicles for bringing about 'independence'.

This ideological re-orientation is also seen in Norway. Since the early 1990s, almost all social-policy reforms have been launched under the umbrella of the so-called 'work approach' (Dahl and Drøpping, 2001). The 'work approach' stresses that paid work should be the first choice of all individuals of working age, and public benefits and services are designed to further this end. Recently, the centre/right coalition government issued an Action Plan to Combat Poverty (St.meld nr. 6

[2002–3]), which singles out long-term recipients of social assistance as one of the chief target groups. The Action Plan expresses a firm belief that activation measures will help to increase work activity, earnings and self-sufficiency among long-term claimants of social assistance. Thus, over the last two years, the government has funded about 1,400 new places in activation programmes for this target group and a few others. Currently, a number of Norwegian municipalities are implementing these schemes.

Participation in activation programmes is expected to improve work and self-sufficiency through different psycho-social mechanisms, for example by enhancing work skills and social abilities, by improving work morale and work motivation, by furthering self-efficacy and self-esteem, and by learning the right balance between rights and obligations (Dahl, 2003).

Effect evaluations of 'activation' programmes

Activation programmes differ on a number of dimensions: work first versus human capital development; whether they are compulsory or voluntary; what kinds of sanctions and rewards are attached; the mix of services provided; whether jobs are in public or private enterprises; and the nature of the target groups. Contextual factors will also influence how the programmes work, for example, the architecture of the social-insurance system, labour-market conditions and business cycles. This huge variety makes it difficult to make stringent comparisons between programmes, settings and countries.

In Norway, workfare programmes have traditionally been offered to social assistance recipients, while ALMPs have mostly been targeted at the insured unemployed. Still, many social assistance recipients also participate in ALMPs, but these participants are often selected from the pool of social assistance recipients. ALMP programmes often have more resources than workfare programmes, and the quality of ALMPs is generally higher. Another difference is that ALMPs are less likely to impose mandatory participation in the programmes. As a result, the participants in ALMPs may be more highly motivated than participants in workfare programmes, where participation is a prerequisite for continued economic support.

The majority of the Norwegian evaluation studies of state-funded ALMPs show that the programmes increase earnings and employment as intended (e.g. Aakvik, 1998; Eldring and Grøgaard, 1996a; 1996b; Moe, 1997; 2000; Raaum et al., 2002a; 2002b), while a few studies show no – or insignificant – effects of the programmes (e.g. Bråthen and Pedersen, 2000). According to a recent study, participation in ALMPs does improve performance in terms of increased earnings and employment. Further, it shows that long-term effects are more pronounced than short-term effects, and that the impact is larger in times of prosperity than in times of recession, as evidence from other countries also indicates (Raaum et al., 2002a).

ALMPs are also available to social assistance recipients, but only one study has distinguished between social assistance and social insurance claimants; Moe (2000) found that the labour-market training effect was less pronounced among social assistance recipients than among other groups of unemployed people. Only four evaluation studies have focused exclusively on social assistance claimants. Controlling for observed differences between participants and non-participants, Nervik (1997) found no effect of programme participation. Pedersen (1993; 1998), however, demonstrated that a municipality programme influenced the duration of receipt of social assistance. The effect was, however, not uniform over all subgroups. Pedersen's (1998) study, which adopts random assignments, demonstrates that the programme has a negative effect for clients who have some years of education, but a positive effect for the less educated. Dahl (2003) examined the outcomes of activation schemes

imposing work requirements in 40 social-assistance departments. He found no significant effect on earnings or employment, neither after one nor after two years.

International reviews of activation programmes also give a mixed picture of their impact. Martin (2000) summarized the most recent effect-evaluation studies carried out in OECD countries. He pointed out that much of the evaluation literature stems from the US and Canada and much less from European countries. He concluded that some programmes in some countries produce positive effects, while in some countries (e.g. Canada, Sweden and the US) programme effects appear to be negative. Dar and Tzannatos (1999) conducted a comprehensive review of about 100 effect-evaluation studies. They also concluded that, in general, ALMPs are not as efficient as often assumed and hoped for, and pointed out, unsurprisingly, that the effects were contingent upon the labour-market conditions, type of programme and target group. A review of 35 effect-evaluation studies of 'workfare' programmes in six European countries (Denmark, France, Germany, Norway, the Netherlands and the UK) suggested that such schemes might increase employment, especially if located in regular working life. Beyond this, no country or programme seemed to perform better (or worse) than others. However, the authors stressed that the evidence was uncertain since the majority of the studies lacked comparison groups. Of those which included one, only a handful tackled the (unobserved) selection bias issue (Dahl and Pedersen, 2001).

The US stands out as a pioneer in evaluating activation programmes; that is, workfare programmes targeted at single mothers. Numerous single evaluations as well as meta analyses of workfare schemes based on random assignment (RCT) indicate that such programmes do increase earnings and employment (Gueron et al., 1991; Hamilton, 2002; Hotz et al., 2000; Michalopoulos and Schwartz, 2000; Orr et al., 1996; Walker et al., 2003). However, a general lesson also seems to be that US workfare programmes are far less effective in reducing poverty. Interestingly, the most disadvantaged seem to benefit most from 'work first' programmes while programmes that combine a mix of activities are beneficial for all groups, at least in the short run (Hotz et al., 2000; Michalopoulos and Schwartz, 2000). Nonetheless, the transferability of these results for Europe and Norway is questionable since both the participants and the labour market differ markedly.

In contrast to the US experience, evidence from the two Nordic countries Sweden and Denmark are less promising. A recent Swedish review of ALMPs concludes: 'On the whole there is little support for the view that the active labour market policy in Sweden in the 1990s had positive effects in these respects' (Calmfors et al., 2002: 55). 'These respects' refer to outcomes that are measured by post-training earnings, employment and unemployment rates. However, the authors add a crucial qualification: 'The overall policy conclusion is that ALMPs of the scale used in Sweden in the 1990s are not an efficient means of employment policy. To be effective, ALMPs should be used on a smaller scale.' It is noteworthy that ALMPs are, and have been, used on a smaller scale in Norway than in Sweden. In Denmark, several recent reviews of the merits of the 'activation line' conclude that the impact of these programmes in general is meagre (Jensen, 2002; Jensen et al., 2002). As mentioned, Norwegian effect evaluations give a more positive picture of the impact of ALMPs.

The available evidence does not allow us to draw any firm conclusions. The only reasonable conclusion appears to be that some programmes in some countries sometimes work for some target groups. Given the current evidence, it is further impossible to pin down the conditions under which programmes do or do not work. There is little doubt that the most reliable findings come from the US, but their relevance for Norway is limited, due to differences in target groups and labour-market structures (see e.g. Bane and Ellwood, 1994). In turn, this may mean that the (alleged) success of Work First programmes in the US would be

hard to replicate in Norway. Further, the evidence from Sweden and Denmark is based on ALMPs, but our target group departs from the normal target groups for ALMPs (i.e. the ordinary unemployed) and, again, the transferability is uncertain. The review of workfare programmes in six European countries identified only a handful of good-quality studies. Finally, previous ALMP evaluations in Norway have neither looked adequately at social assistance recipients nor at effects of programme chains. Against this background, there is a need to investigate whether ALMPs enhance work and earnings among social assistance recipients in Norway.

The investigation attempts to meet some of the shortcomings and challenges identified in the existing evaluation literature, by: looking at social assistance claimants; examining the impact of different kinds of programmes or programme packages ('chains') that are assumed to be particularly beneficial to disadvantaged groups; investigating both short-term and long-term effects; and, finally, by employing a matching method that ensures that the comparison group is likely to be equivalent to the intervention group.

ALMPs in Norway – a brief account

Among the official objectives of the labour-market schemes in question is to 'increase the participants' chances of obtaining ordinary work' [www.aetat.no/infoWeb/english/labour_market_schemes]. In the mid-1990s, ordinary ALMPs were targeted at the insured unemployed, but not exclusively, as social assistance recipients who were judged fit had access to this repertoire of programmes. However, labour-market services were quite squeamish about whom they selected. Evidence suggests that most often those who had the best prospects for labour-market participation were prioritized, a process known as 'creaming'. ALMP places are established in close conjunction with the business cycles: in times of prosperity and high demand for labour, few places are offered; in times of recession, as in 1995, more places are funded (Dahl and Drøpping, 2001).

A central ambition for the Norwegian employment services is to involve long-term unemployed people in the development of their own action plans, where the final objective is to get work and become self-sufficient. The action plan may involve several different steps and combine several different labour-market programmes. These extensive programmes, consisting of several different components, are what we call 'programme chains'. Eventually, the progressive chain of programmes is supposed to lead the participant into work. Our data do not allow us to identify the different action-plans for each individual participant. The reconstruction of the individual programme packages is therefore based on how the different schemes are linked together empirically in the data. This means that we evaluate empirical chains of labour-market schemes without being able to determine whether the schemes involved are part of a deliberate action-plan. Some chains are part of careful planning, others are not, but we cannot tell which is which. Yet, the nine programme packages we have identified in our material constitute chains of events which are theoretically sound.

Long-term unemployed recipients of social assistance often lack the right to receive unemployment benefits. This might be a result of a lack of work experience or unemployment periods that exceed the limits of ordinary unemployment benefits. Hence, this group of ALMP participants are often equipped with less work experience and fewer work-related resources than ordinary unemployed people. Some evidence in the literature suggests that this group gains less from participating in active labour market programmes than ordinary jobseekers. Therefore, we suspect that this group needs more extensive programme packages than ordinary work applicants before being able to become self-sufficient. The evaluation therefore focuses on the effects of partic-

ipation in chains of different schemes as well as chains of similar single schemes. Four groups of schemes, which form the basis of the chains, may be identified:

- *Temporary employment measures:* These provide temporary income support through short-term transitional employment. These programmes are targeted towards less qualified job applicants who have been unemployed for at least three months. We find in our sample that the typical participant is often male, less educated, between 26 and 45 years old, and long-term unemployed.
- *Qualification programmes:* These provide the participants with skills which are needed in the labour market, and are targeted towards young people with uncertain employment situations. The programmes are mainly performed as classroom education, and are less likely to be on-the-job training. In our sample, the participants in these programmes are better educated and younger than the participants in temporary employment measures.
- *Work practice:* These schemes mainly provide on-the-job training, in both the private and public sectors. Work-practice programmes are targeted at both newcomers in the labour market and the long-term unemployed. In our data, the participants are more often women than men, and there is a large proportion of young people with quite short unemployment histories. The main objective is to help young people entering the work force.
- *Wage subsidies:* These subsidize the employers' wage costs, and attempt to provide the participants with work experience and make connections with employers. The target groups may vary from year to year, but are in general directed towards groups with a high unemployment risk. The participants in our material are often aged between 26 and 45 years, and have attained a low level of education.

Data and methods

Subjects

The data set includes nearly all those who received social assistance in 1995 (about 155,000 individuals) and contains individual information on a variety of areas for the years 1992–9. The data material was provided by Statistics Norway which linked data from a number of national administrative and statistical registers by means of the personal identification numbers. The data are described in detail in Dahl and Lorentzen (2003).

Variables

The predictor variables used for matching include sociodemographics such as age, sex, number of family members, number of children if any, ethnic background; and socio-economic variables such as education, occupational activity, former experiences of lifecourse events such as receipt of social assistance, unemployment history and income. The outcome variables are annual earnings and annual number of working days during the subsequent 3–4 years after leaving the programme. For descriptive purposes we have calculated the percentages of programme participants with earnings below 'decent income' as decided by Parliament. For 1996 this amounts to NOK65,284 (approximately €7,546); for 1997 NOK68,320 (€7,900); for 1998 NOK77,360 (€8,940); and for 1999 NOK83,256 (€9,620).

Constructing the programme chains

Information on participation in state-run labour-market programmes is derived from a nationwide register ('SOFA-register') owned and maintained by the Labour Market Authorities. The register includes detailed information on the schemes for each participant. Altogether, 'our' cohort of social assis-

tance recipients participated in 77 different individual schemes in 1995 and 1996.

At the outset, we excluded all the participants in programmes for the vocationally disabled. This was done to avoid the serious selection bias connected to finding comparison groups for this group.[1] Second, we conducted a procedure to remove duplicates and problems with overlapping start and finishing dates. Third, the empirical programme groups were ordered by date. We dropped programme chains with more than a six-month gap between the different components of a programme chain. Participation in several single programmes within one of the four main groups is also considered a programme chain. This means we consider both chains within the four main groups and chains between the four main groups of programmes. The programme chains were first constructed on a theoretical basis and verified by an experienced practitioner and a researcher separately. The theoretically constructed chains were compared with the empirical programme chains that emerged from the data. After this comparison, we removed programme participants who had participated in programmes that did not fit with the theoretical definition. However, most of the programme chains – nine altogether – fitted quite well with the theoretically constructed chains. These are:

- Work practice
- Work practice ⇒ wage subsidies
- Work practice ⇒ qualification programmes
- Wage subsidies
- Qualification
- Qualification ⇒ work practice
- Qualification ⇒ wage subsidies
- Qualification ⇒ temporary employment measures
- Temporary employment measures

This process reduced our sample from 155,000 to 87,229, of whom 57,867 did not participate in any ALMP. The group of non-participants is used as a basis for constructing comparison groups. Programme participation may last for several months, depending on the programme or the chain of programmes one participates in. The programme participants are divided into two cohorts, one cohort for those who finished a programme by the end of 1995, and another cohort for those finishing a programme or a chain of programmes by the end of 1996. This is done to limit the bias arising when comparing the work activity and income levels for individuals entering the labour market at different times. It is worth noting that the average duration of programme participation is slightly longer for the 1996 cohort. The reason for this is that the time window for this group is one year more than for the 1995 cohort. These statistics can be obtained from the authors upon request. Forming these two cohorts reduces the sample further from 87,229 to 69,606 since those who ended a chain of programmes after 1996 are removed from the sample. One should be aware of the fact that the waiting period between programmes (maximum six months) is counted as programme time in the analyses. This means that the actual time on a programme might be substantially lower, but the total time it takes to finish a chain of programmes is correct.

The matching procedure

The construction of comparison groups is a crucial task. Social assistance recipients are a heterogeneous group with different characteristics and, depending on the programme package, the participants are likely to differ from non-participants with regard to a number of observed (and unobserved) characteristics. Failure to take this into account could lead to negative or positive selection bias which might influence the programme effect substantially. In experimental settings, participants and non-participants are randomly assigned to each group. Differences between them are therefore random and can easily be dealt with statistically. In a quasi-experimental design, it is necessary to adopt econometric techniques to

construct comparison groups which minimize the problem of systematic (positive or negative) selection bias. Here, this is done by picking a non-participating partner (twin) to each programme participant. This procedure will be described in some detail in the next section.

The matching protocol

We have adopted Lechner's (2001) matching protocol, which is recommended when evaluating a range of heterogeneous programmes such as our programme chains.

Step 1

We perform a multinomial logit estimation of transition probabilities to all 10 states; non-participation is base category. This is done for both the 1995 and the 1996 cohort. Each sample member has several different possibilities. One could either participate in one of the nine programme groups and chains, or one could be a non-participant. This makes a total of 99 estimations per cohort, and a total of 198 logit estimations. Second, we predict the probabilities for transition to each of the 10 states. A comparison of propensity scores for the nine programmes and programme chains is presented in Appendix Table A1. We find a substantial deviation between the propensity scores of the participants and non-participants in chains which consist of programme chains between different programme groups. This can be a result of selection bias in some of the programme chains. We will return to this issue in the discussion.

Step 2

All observations that are outside the common support (i.e. outside certain limits) are excluded. This is done to avoid mismatching of participants and non-participants with non-overlapping propensity scores. We have a substantial loss of individuals because of non-overlapping propensity scores for some of the programme chains. The largest loss because of non-overlapping propensity scores are found for the same groups that we described as potentially problematic in Step 1. These plots may be obtained from the authors on request.

Step 3

The Mahalonobis metric is calculated (Rubin, 1979). This is a procedure to measure the distance between participants and non-participants. For each participant, we calculate the Mahalonobis metric for all the non-participants and choose the one with the closest match for the participant. We use a matching procedure where the non-participants are put back into the sample so that they can be used again. This is done until all participants have found their match. The statistics of multiple use of non-participants can be obtained from the authors on request. Multiple use of non-participants could, if used extensively, lead to inflation of variance (Raaum et al., 2002a). In our material we find that the maximum proportion of multiple use of non-participants is 13 per cent for the 1995 cohort of participants in work practice programmes (programme 1). For the other programme groups we find quite low numbers, and hence dropped controlling the potential problems connected to the standard errors of the estimates.

After matching, the propensity score of participants and non-participants are almost equal (Appendix Table A2). We have done visual inspections of kernel densities' plots where we compare the overlap of participants' and non-participants' propensity scores. The plots show an almost perfect overlap of the propensity scores for all pairs of participants and non-participants. This indicates a successful matching procedure. The plots can be obtained from the authors on request. When interpreting the effects we have to be aware of the substantial loss of participants because of non-overlapping propensity scores for some of the programmes with fewer participants.

Results

The matching procedure enables us to compare the effect of participation with non-participation on earnings and work activity. This means that everything else being equal, we find the effect of participating compared with not participating in all of the nine chains of ALMPs. To further scrutinize the effects on 'self sufficiency', we have added the percentages of participants with earnings below decent earnings after programme participation.

In order to get an impression of the average social assistance recipient, independent of programme participation, we first present descriptive statistics for the two cohorts. Appendix Table A3 presents an overview of income and work-activity for the two cohorts. The mean income and work-activity increases evenly for all the years, but it never exceeds 125 days of work per year. The 'creaming' (positive selection) effects of the different programme types are found by comparing the matched groups of non-participants with average social assistance recipients (Table A3) on the outcome parameters (work-activity and income). Hence, if one of the non-participating groups has higher earnings/work-activity than the average social assistance recipient, we have positive selection to that programme.

The programme effects in terms of days of remunerated work and earnings are presented in Tables 1–9.

Table 1 indicates that participation in work practice programmes only has a marginally positive effect, both when it comes to income and work-activity. Provided that this group of programme participants, on average, spend 422 (for the 1995 cohort) and 501 (for the 1996 cohort) days in the programme or chain of programmes in this group, the result is not very successful. If we compare the non-participants in the comparison group with the mean earnings and work-activity level of social assistance recipients, it is obvious that there is quite a strong positive selection into this programme. The average social assistance recipient in the 1995 cohort works 123 days in 1999, while the average earnings are NOK74,104. In contrast, the non-participants in the matched group work 196 days in 1999, and earn NOK117,196. This difference is probably caused by the fact that this type of programme recruits participants with better than average prospects in the labour market.

Social assistance beneficiaries with work practice followed by wage-subsidy programmes have a very high average number of working days (Table 2). The effect is quite strong but because of the small number of par-

Table 1 Effect of work practice programmes for the 1995 and 1996 cohort on average income and work activity. Mean differences tested with two sample t-tests

	Work practice							
	Average days working				*Average income (NOK)*			
Year	*Programme*	*Comparison*	*Diff.*	*Sig.*	*Programme*	*Comparison*	*Diff.*	*Sig.*
1995 cohort, N = 3,656								
1996	69	64	5		71,690	62,263	9,427	[b]
1997	136	124	12	[a]	93,039	80,845	12,194	[b]
1998	201	185	16	[b]	113,284	102,679	10,605	[b]
1999	218	196	22	[b]	128,016	117,106	10,910	[b]
1996 cohort, N = 3,526								
1997	137	123	14	[a]	90,426	81,488	8,938	[b]
1998	205	188	17	[b]	111,083	104,127	6,956	a
1999	218	201	17	[b]	126,652	119,690	6,962	

Notes: [a] Significant 5%. [b] Significant 1%.

Table 2 Effect of work practice to wage-subsidies programmes for the 1995 and 1996 cohort on average income and work activity. Mean differences tested with two sample t-tests

Work practice–wage subsidies								
	Average days working				*Average income (NOK)*			
Year	*Programme*	*Comparison*	*Diff.*	*Sig.*	*Programme*	*Comparison*	*Diff.*	*Sig.*
1995 cohort, N = 86								
1996	136	127	9		114,766	75,486	39,280	[a]
1997	221	162	59		119,094	95,609	23,485	
1998	267	199	68	[a]	133,678	111,027	22,651	
1999	295	218	77	[a]	150,255	131,390	18,865	
1996 cohort, N = 172								
1997	198	166	32		129,080	103,858	25,222	[a]
1998	258	225	33		145,599	129,703	15,896	
1999	244	226	18		149,839	146,151	3,688	

Note: [a] Significant 5%.

ticipants on this programme, the difference is only significant for the 1995 cohort for the year 1999. The positive selection bias is even stronger here than for work-practice programmes.

Table 3 shows us that none of the Programme effects are significant for the programme chain work practice to qualification. The work-activity and income for the non-programme group indicates positive selection of participants to this programme, but the effect is weaker than for the other two combinations with work-practice programmes.

The effects of participating in wage-subsidy programmes are significant and quite strong for both the 1995 and the 1996 cohort (Table 4). Programme participants have both a higher income and more working days than non-participants. It is also worth noting that these types of programmes have the shortest duration of all the programmes in the evaluation. The positive selection effect is at the same level as work practice to qualification, but the programme effect is stronger.

Some former studies indicate that effects of qualification programmes do not become visible

Table 3 Effect of work practice to qualification programmes for the 1995 and 1996 cohort on average income and work activity. Mean differences tested with two sample t-tests

Work practice–qualification programmes								
	Average days working				*Average income (NOK)*			
Year	*Programme*	*Comparison*	*Diff.*	*Sig.*	*Programme*	*Comparison*	*Diff.*	*Sig.*
1995 cohort, N = 258								
1996	58	45	13		74,010	53,637	20,373	[a]
1997	120	102	18		95,384	75,252	20,132	
1998	198	159	39		114,823	90,188	24,635	[a]
1999	208	181	27		129,931	109,432	20,499	
1996 cohort, N = 172								
1997	124	139	–15		90,330	90,963	–633	
1998	204	194	10		117,554	105,211	12,343	
1999	229	202	27		131,286	116,881	14,405	

Note: [a] Significant 5%.

Table 4 Effect of wage-subsidies programmes for the 1995 and 1996 cohort on average income and work activity. Mean differences tested with two sample t-tests

Wage subsidies								
	Average days working				*Average income (NOK)*			
Year	*Programme*	*Comparison*	*Diff.*	*Sig.*	*Programme*	*Comparison*	*Diff.*	*Sig.*
1995 cohort, N = 1,290								
1996	97	73	24	[a]	111,396	73,038	38,358	[a]
1997	166	125	41	[a]	129,371	88,152	41,219	[a]
1998	222	176	46	[a]	148,036	100,716	47,320	[a]
1999	232	185	47	[a]	162,773	116,127	46,646	[a]
1996 cohort, N = 1,118								
1997	165	124	41	[a]	136,036	97,407	38,629	[a]
1998	235	183	52	[a]	153,653	115,590	38,063	[a]
1999	241	198	43	[a]	164,174	130,334	33,840	[a]

Note: [a] Significant 1%.

Table 5 Effect of qualification programmes for the 1995 and 1996 cohort on average income and work activity. Mean differences tested with two sample t-tests

Qualification programmes								
	Average days working				*Average income (NOK)*			
Year	*Programme*	*Comparison*	*Diff.*	*Sig.*	*Programme*	*Comparison*	*Diff.*	*Sig.*
1995 cohort, N = 4,644								
1996	76	60	16	[a]	89,202	67,769	21,433	[a]
1997	138	111	27	[a]	109,547	83,140	26,407	[a]
1998	193	161	32	[a]	127,331	99,201	28,130	[a]
1999	206	168	38	[a]	140,362	108,045	32,317	[a]
1996 cohort, N = 4,558								
1997	137	110	27	[a]	105,139	79,711	25,428	[a]
1998	207	161	46	[a]	129,080	97,762	31,318	[a]
1999	217	170	47	[a]	142,455	106,874	35,581	[a]

Note: [a] Significant 1%.

Table 6 Effect of qualification to work-practice programmes for the 1995 and 1996 cohort on average income and work activity. Mean differences tested with two sample t-tests

Qualification programmes–work practice								
	Average days working				*Average income (NOK)*			
Year	*Programme*	*Comparison*	*Diff.*	*Sig.*	*Programme*	*Comparison*	*Diff.*	*Sig.*
1995 cohort, N = 86								
1996	127	56	71	[a]	93,675	74,305	19,370	
1997	188	111	77	[a]	117,796	103,273	14,523	
1998	274	162	112	[b]	158,291	124,153	34,138	
1999	289	149	140	[b]	178,580	123,783	54,797	[a]
1996 cohort, N = 172								
1997	164	134	30		124,202	86,255	37,947	[b]
1998	232	175	57	[a]	148,720	103,934	44,786	[b]
1999	237	194	43		157,094	116,184	40,910	[a]

Notes: [a] Significant 5%. [b] Significant 1%.

Table 7 Effect of qualification to wage-subsidies programmes for the 1995 and 1996 cohort on average income and work activity. Mean differences tested with two sample t-tests

Qualification programmes–wage subsidies								
	Average days working				*Average income (NOK)*			
Year	*Programme*	*Comparison*	*Diff.*	*Sig.*	*Programme*	*Comparison*	*Diff.*	*Sig.*
1995 cohort, N = 172								
1996	110	74	36		131,991	90,088	41,903	[b]
1997	184	139	45		153,479	107,799	45,680	[b]
1998	274	207	67	[b]	175,690	131,574	44,116	[b]
1999	273	197	76	[b]	173,772	133,982	39,790	[a]
1996 cohort, N = 172								
1997	185	123	62	[a]	142,887	101,817	41,070	[b]
1998	271	162	109	[b]	168,507	102,648	65,859	[b]
1999	294	147	147	[b]	187,893	105,986	81,907	[b]

Notes: [a] Significant 5%. [b] Significant 1%.

until after several years (Hotz et al., 2000). However, in our analysis we find immediate effects of this type of programme. Table 5 shows that the long-term effects are stronger than the short-term effects, but within a year of finishing a programme we find a substantial increase both in income and average working days. It is possible that the effects magnify even more after a longer period of time, but we are only able to document the effects for up to four years.

When qualification programmes are combined with work practice, the effects get even stronger (Table 6). Especially for the 1995 cohort, we find that the programme participants work nearly twice as much as the non-participants by the end of the four-year period. This combination of programmes is one of the most time-consuming in our analysis. Participants use on average 638 or 733 days between starting the first programme and finishing the last. We do not conduct a cost-benefit analysis, but all the same, from the participants' point of view, the effects of the programme chain are not negligible. However, because of the small number of participants in the programme group, these results should be interpreted with caution.

A combination of qualification to wage-subsidy programmes seems to have strong

Table 8 Effect of qualification to temporary-employment-measures programmes for the 1995 and 1996 cohort on average income and work activity. Mean differences tested with two sample t-tests

Qualification programmes–temporary employment measures								
	Average days working				*Average income (NOK)*			
Year	*Programme*	*Comparison*	*Diff.*	*Sig.*	*Programme*	*Comparison*	*Diff.*	*Sig.*
1995 cohort, N = 86								
1996	78	55	23		108,812	78,308	30,504	
1997	137	102	35		109,177	93,982	15,195	
1998	182	182	0		111,043	107,015	4,028	
1999	203	187	16		110,558	110,872	–314	
1996 cohort, N = 86								
1997	104	132	–28		104,527	97,655	6,872	
1998	191	194	–3		134,326	117,398	16,928	
1999	181	190	–9		136,427	131,098	5,329	

Table 9 Effect of temporary-employment-measures programmes for the 1995 and 1996 cohort on average income and work activity. Mean differences tested with two sample t-tests

Temporary-employment measures								
	Average days working				*Average income (NOK)*			
Year	*Programme*	*Comparison*	*Diff.*	*Sig.*	*Programme*	*Comparison*	*Diff.*	*Sig.*
1995 cohort, N = 944								
1996	65	60	5		96,583	74,558	22,025	[b]
1997	120	108	12		103,678	84,736	18,941	[b]
1998	166	151	15		110,344	98,402	11,942	
1999	172	156	16		110,710	101,311	9,399	
1996 cohort, N = 1,056								
1997	103	117	–14		108,031	83,507	24,524	[b]
1998	168	154	14		117,426	90,319	27,108	[b]
1999	178	154	24	[a]	120,658	93,468	27,190	[b]

Notes: [a] Significant 5%. [b] Significant 1%.

effects both on income and work-activity (Table 7). The effect of the comparison groups of the two cohorts is somewhat confusing. It looks as though the 1995 cohort comparison group has a less positive income development than the 1996 cohort. Varying target groups from year to year might cause this, but to a certain degree it could also be caused by the small size of the group. As a consequence of this, the gain from this programme is much higher for the 1996 cohort than for the 1995 cohort.

The results in Table 8 show that qualification programmes in combination with temporary employment measures have no significant effects on income or work-activity. This could indicate that temporary employment measures do not work as a springboard for ordinary employment but, on the contrary and as the name indicates, work as temporary employment.

The effect of temporary employment measures confirms the presumption in the previous analysis. Here, too, temporary work does not have substantial short or long-term effects when it comes to work activity (Table 9). However, there is a significant tendency that the 1996 cohort programme group has a higher income than the comparison group.

The Norwegian government has recently defined poverty as the equivalent household income that is less than half the median three years in a row (St.meld nr. 6 [2002–3]). We do not have the necessary household income data to examine this issue. We might, however, compare our results with 'decent income', that is, the lowest benefit level in the social-security system which is decided annually by the Parliament.[2] In order to further illustrate the programme effects on self-sufficiency, we have added two tables illustrating the share of programme participants with labour earnings below the 'decent-income' line. These analyses (Tables 10 and 11) indicate that significant minorities of the participants have earnings below 'decent income'. This, however, does not include income coming from other sources than wage earnings, and will only illustrate the participants' degree of self-sufficiency through wage labour. For some of the programmes, the share is over 50 per cent in the first year after programme participation. Most of the programmes, for both the 1995 and the 1996 cohort, show a significant decrease in the percentage below the decent-income line from the first year after the programme to 1999. The two programme types incorporating elements of temporary employment are two important exceptions; both programme types show an increase in the percentage of below decent earnings.

Table 10 1995 cohort. Percentage below 'decent income'. Only participants in ALMPs

	1996 (%)	*1997 (%)*	*1998 (%)*	*1999 (%)*	*N*
Work practice	54	47	42	39	1,828
Work practice–wage subsidies	33	30	33	26	43
Work practice–qualification programmes	53	47	39	38	129
Wage subsidies	34	34	33	32	645
Qualification programmes	48	44	41	39	2,322
Qualification programmes–work practice	44	33	23	14	43
Qualification programmes–wage subsidies	19	21	19	24	86
Qualification programmes–temporary-employment measures	23	30	37	44	43
Temporary-employment measures	34	39	42	46	472

Table 11 1996 cohort. Percentage below 'decent income'. Only participants in ALMPs

	1997 (%)	*1998 (%)*	*1999 (%)*	*N*
Work practice	46	41	39	1,763
Work practice–wage subsidies	26	21	26	86
Work practice–qualification programmes	45	38	37	86
Wage subsidies	25	28	28	559
Qualification programmes	42	38	38	2,279
Qualification programmes– work practice	29	28	27	86
Qualification programmes–wage subsidies	19	20	17	86
Qualification programmes–temporary-employment measures	30	30	33	43
Temporary-employment measures	33	40	42	528

Summary and discussion

In this paper we have asked if participation in chains of ALMPs enhances the social assistance recipients' chances of becoming self-sufficient (i.e. increasing earnings and employment), and if these chances vary according to the type of scheme in which the claimants are participating. Further, we have asked how many of the participants experience earnings below 'decent income' as defined by the Parliament. To answer these questions we have adopted a quasi-experimental design and a matching procedure based on propensity scores to define comparison groups. In general, we do detect positive effects on self-sufficiency after participating in a programme package. We expected that this group of social assistance recipients needed extensive programmes in order to become self-sufficient. The results indicate that programmes combining qualification and work-training measures, or qualification and wage subsidies, have strong positive effects both on income and work-activity. Temporary-employment measures and a combination of qualification and temporary employment give weak or no effects. This suggests that many in this group need both basic skills and measures that assist the jobseekers into ordinary employment in order to become self-sufficient.

These findings are based on a comparison of participants with non-participants that are equivalent. In this context equivalent means that their observed likelihood to participate are very similar to those that actually did participate in a given scheme chain. This approach is appropriate to answer the counter factual question: What would have happened to the participants had they not participated? At the same time, this implies that we cannot say that one programme chain is more effective than another for this specific target group. This is

because the comparison group for each programme group is a matched group of *non-participants*, and not a matched group of participants in *other programmes*. Thus our results do not allow us to infer whether programme B is better than programme C. This is because not only do the programmes vary, but the target groups do as well. What we can claim on the basis of this analysis is that for target group A, programme B is more effective than programme C is for target group D. The policy implication of this is that more claimants who resemble target group A should be offered programme B, with promising prospects for self-sufficiency.

It is important to note that most programme participants are positively selected from the pool of social assistance recipients. This becomes visible by comparing the outcome variables for the matched groups of non-participants with the mean values for average social assistance recipients. This process of selecting participants with high chances of success (i.e. 'creaming') is quite a common phenomenon in many activation programmes across countries (Dahl and Pedersen, 2001). Another point is that only a small fraction of the entire 1995 cohort of social assistance beneficiaries have participated in these types of programme packages. The reason for this might be a shortage of programme slots, or that only the people who actually participate are considered fit for these programmes. In light of our ability to identify 'twins' of the participants, the first interpretation is the most likely. If so, there seems to be a potential to increase self-sufficiency through work among social assistance claimants if more of them were offered programme packages.

How big are the gains for the participants? We see that for some programme chains the effect is quite substantial. But are earnings satisfactory? One objective in current social policy in Norway is not only to move social assistance recipients from welfare to work, but also to lift them out of 'poverty' (St.meld nr. 6 [2002–3]). We found that a substantial share of the programme participants had earnings below a 'decent level', as defined annually by Parliament. However, the share for most of the programme types was shrinking over the years, but even after four years a substantial share of the participants lacked earnings above a decent level.

The five-year follow-up period has been a time of high economic growth in Norway. It is likely that this has influenced the favourable development in incomes and employment in both the programme and the comparison group. It is less obvious, however, that a booming economy also influences the programme effect. Is it likely that programmes work better in good than in bad times? Might it even be that for ALMPs to be effective, a prosperous economy is a necessary condition? Raaum et al. (2002a) have demonstrated that ALMPs for ordinary unemployed people are effective in good as well as in bad times. However, in good times employment programmes are found to work better than qualification programmes. This finding is supported by Moe (2000). It should be noted that neither of these has focused specifically on social assistance beneficiaries who probably are less capable of seizing the opportunities a buoyant economy offers.

We have not conducted a cost-benefit analysis. Thus, we cannot tell whether the gain earned by the participants exceeds the programme costs. For ordinary unemployed people, Raaum et al. (2002b) have demonstrated that ALMPs are cost-effective, but this remains to be shown for social assistance recipients. Since more expensive programme packages have been necessary to bring these participants into work, it is likely that the costs will be higher than for an average insured unemployed person.

These positive results, and the recommendations they give rise to, stand in contrast to some earlier research both in Norway and in other Western countries referred to above. In a previous paper we demonstrated that 'workfare' programmes were ineffective in bringing social assistance beneficiaries into work and self-sufficiency (Dahl, 2003). There may be several

reasons for this divergence. First, the target groups are different: participants in state-run labour-market programmes tend to have more resources and fewer problems than those who participate in municipality programmes. In Norway it has been demonstrated that participants in municipality workfare programmes are negatively selected (Dahl, 2003). In contrast, as previously mentioned, participants in state-run ALMPs are positively selected. Few of the European or American ALMP evaluations are done on target groups that are comparable to Norwegian social assistance beneficiaries, and most of the evaluated programmes directed towards social assistance recipients have been workfare programmes. Hence, it is not possible to directly compare programme effects in our study with those done on similar target groups in Europe and the US. Second, the programmes are different: ALMPs are likely to be of higher quality and dispose of more resources than municipality programmes (Lødemel, 1997). In addition, all participants in Norwegian ALMPs are obliged to have their own tailored action plan, which guides them through adapted chains of programmes towards integration into the labour market. The last point in particular separates these programmes from the often more crudely adapted workfare programmes. One lesson to be learned from our example is that individuals with few work-related resources need extensive training in order to integrate in the labour market. Finally, the conditions for participation are different: state-run programmes are, or at least were, less likely to impose mandatory participation than municipality programmes. As a result of this, participants in these programmes might be more highly motivated than participants in mandatory programmes. Without further information, it is difficult to assess which of these factors are most important. The lessons to be learned, however, are that one should: have modest expectations of success if one recruits mainly truly disadvantaged participants; be cautious implementing programmes that are of dubious quality; think twice before enforcing work requirements.

The method used in this evaluation does not take account of unobserved heterogeneity (e.g. Heckman and Smith, 1996). The propensity score method rests on the assumption that unobserved factors have the same distribution in the programme group as in the comparison group. This assumption is untestable, but how plausible is it? A fairly long list of independent variables is included in the multinomial logit equation predicting participation. Many of these variables (such as previous labour-market experience, education and former receipt of social assistance) will most likely be correlated with unobserved characteristics such as motivation, self-efficacy or morale. In other words, a large part of the unobserved is accounted for by what we do observe. It has been shown that in large data sets the propensity score method gives results similar to those produced by an RCT (Rubin, 1997). This means that the outcomes for our larger programmes are more reliable than those found for the smallest ones, which should be interpreted with caution.

To sum up, this analysis of nine ALMP packages has shown that, in general, they work as intended: they significantly increase earnings and employment. The impact definitely varies between programmes. For some programmes, the effect is quite large, over NOK40,000 (approximately €4,620). However, significant minorities of the participants still earn less than the 'decent' amount decided by the Norwegian national Parliament; the problem of poverty remains significant.

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Notes

1 Nearly all vocationally disabled people participate in labour-market programmes. This makes the identification of a non-participant comparison group difficult.
2 For a single person these amounts were: 1996, NOK65,284; 1997 NOK68,320; 1998 NOK77,360; and 1999 NOK83,256.

References

Aakvik, A. (1998) *Five Essays on the Microeconomic Evaluation of JobTraining Programs,* Dissertation in Economics No. 15. Bergen: University of Bergen.

Bane, E. J. and Ellwood, D. T. (1994) *Welfare Realities. From Rhetoric to Reform.* Cambridge: Harvard University Press.

Bråthen, M. and Pedersen, P. (2000) *Evaluering av ordinære arbeidsmarkedstiltak – Deltakere i 1999* [Evaluation of regular ALMPs], Reports 2000/22. Oslo: Statistics Norway.

Calmfors, L., Forslund, A. and Hemström, M. (2002) *Does Active Labour Market Policy Work? Lessons from the Swedish Experiences*, Working Paper 2002:4. Uppsala: IFAU – Institute for Labour Market Policy Evaluation.

Dahl, E. (2003) 'Does "Workfare" Work? The Norwegian Experience', *International Journal of Social Welfare* 12 (4): 274–88.

Dahl, E. and Drøpping, J. A. (2001) 'The Norwegian Work Approach in the 1990s: Rhetoric and Reform', in N. Gilbert and R. Van Voorhis (eds) *Activating the Unemployed. A Comparative Appraisal of Work-oriented Policies*. New Brunswick, NJ: Transaction Publishers.

Dahl, E. and Lorentzen, T. (2003) 'Dynamics of Social Assistance. The Norwegian Experience in International Perspective', *International Journal of Social Welfare* 12 (4): 289–301.

Dahl, E. and Pedersen, L. (2001) 'Workfare in Europe. Does it Work? Summary of a Systematic Review of Effect Evaluations of Workfare Programmes in Six European Countries', in I. Lødemel (ed.) *Workfare in Six European Nations. Findings from Evaluations and Recommendations for Future Development,* preliminary report prepared for the Conference Welfare to Work in Europe and the US (Oct.), Fafo. Oslo: Fafo.

Dar, A. and Tzannatos, Z. (1999) 'Active Labour Market Programs: a Review of the Evidence from Evaluations', SP Discussion Paper 9901. The World Bank.

Deacon, A. (2002) *Perspectives on Welfare*. Buckingham: Open University Press.

Eldring. L. and Grøgaard, J. B. (1996a) *Evaluering av næringslivets fadderordning og praksisplasstiltaket* [An evaluation of two different ALMPs], Fafo-rapport 194. Oslo: Fafo.

Eldring, L. and Grøgaard, J. B. (1996b) *Evaluering av hospiteringstiltaket for yrkeshemmede* [Evaluation of an ALMP for the vocationally disabled], Fafo-rapport 205. Oslo: Fafo.

Gilbert, N. (2002) *Transformation of the Welfare State. The Silent Surrender of Public Responsibility.* Oxford: Oxford University Press.

Gilbert, N. and Van Voorhis, R. (eds) (2001) *Activating the Unemployed. A Comparative Appraisal of Work-oriented Policies*. New Brunswick, NJ: Transaction Publishers.

Gueron, J. M., Pauly, E. and Lougy, C. M. (1991) *From Welfare to Work: a Manpower Demonstration Research Corporate Study*. New York: Russel Sage Foundation.

Hamilton, G. (2002) Moving People from Welfare to Work. Lessons from the National Evaluation of Welfare-to-Work Strategies. US Dept of Health and Human Services: [mdrc.org/publications/52/summary.html].

Heckman, J. and Smith, J. A. (1996) 'Experimental and Nonexperimental Evaluation', in G. Schmid, J. O. Reilly and K. Schomann (eds) *International Handbook of Labour Market Policy and Evaluation*. Cheltenham: Edward Elgar.

Hotz, V. J., Klerman, J. A. and Imbens, G. W. (2000) 'The Long-term Gains from GAIN: a Re-analysis of the Impacts of the California GAIN Program Latest Draft' (Oct.). Los Angeles: University of California, NBER, and RAND.

Innst. S. nr. 222 (1998–9) *Innstilling frå sosialkomiteen om fordeling av inntekt og levekår i Norge (Utjamningsmeldinga)*. Oslo: Stortinget.

Jensen, P. (2002) 'Er den aktive arbeidsmarkedspolitikken en succes?', *ø konomi og politikk*. Nr 4.

Jensen, P., Larsen, J. E. and Rosholm, M. (2002) 'Aktivering- mål eller middel?', *Samfundsøkonomen* 7: 4–11.

Lechner, M. (2001) 'Program Heterogeneity and Propensity Score Matching: an Application to the Evaluation of Active Labor Market Policies', Discussion Paper. University of St. Gallen: Swiss Institute for International Economics and Applied Economic Research.

Lødemel, I. (1997) *Pisken i arbeidslinja. Om iverksetting av arbeid for sosialhjelp*. Oslo: Forskningsstiftelsen Fafo.

Lødemel, I. and Trickey, H. (eds) (2001) *An Offer You Can't Refuse. Workfare in International Perspective*. Bristol: Policy Press.

Martin, J. P. (2000) 'What Works Among Active Labour Market Policies: Evidence from OECD Countries' Experiences', *Economic Studies* No. 30, 2000 (I): 276-302.

Michalopoulos, C. and Schwartz, C. (2000) *Executive Summary. National Evaluation of Welfare-to-Work Strategies. What Works Best for Whom: Impacts of 20 Welfare-to-Work Programs by Subgroup*. New York: Manpower Demonstration Research Corporation.

Moe, A. (1997) 'Fra ledighet til sysselsetting. En analyse av Arbeidsmarkedsopplæringa basert på KIRUT-data' [From unemployment to employment], *Søkelys på arbeidsmarkedet* 14: 43–54.

Moe, A. (2000) 'Aktiv arbeidsmarkedspolitikk i Norge 1989–95: Effekter av kvalifisering og arbeidstrening' [ALMP in Norway 1989–95], *Tidsskrift for samfunnsforskning* 1: 3–36.

Nervik, J. A. (1997) *Offentlig politikk og klientløpebaner. Sosialhjelp og arbeidsmarkedstiltak- bidrag til selvforsørging eller ringdans i velferdsbyråkratiet?* [Public Policy and Client Trajectories]. Oslo: University of Oslo.

Orr, L. L., Bloom, H. S., Bell, S. H., Doolittle, F., Lin, W. and Cave, G. (1996) *Does Training for the Disadvantaged Work? Evidence from the National JTPA Study*. Aldershot: Avebury.

Pedersen, J. T. (1993) *Arbeid eller tvangsarbeid. Resultater av arbeidsmarkedstiltak for unge sosialklienter og rusmiddelmisbrukere*. [Work or Compulsory Work?] Oslo: Oslo University Press.

Pedersen, J. T. (1998) 'Er arbeidslinjen egnet til å hjelpe klientene ut av stønadsrollen?' [Is the Work Approach Effective in Helping Clients Out of the Role as a Social Assistance Recipient?], *Rapport* 98: 4. Oslo: University of Oslo.

Raaum, O., Torp, H. and Tzhang, T. (2002a) 'Business Cycles and the Impact of Labour Market Programmes', Memorandum 14/2002. Oslo: UiO, Department of Economics.

Raaum, O., Torp, H. and Tzhang, T. (2002b) 'Do Individual Programme Effects Exceed the Costs? Norwegian Evidence on Long Run Effects of Labour Market Training', Memorandum 15/2002. Oslo: UiO, Department of Economics.

Rubin, D. B. (1979) 'Using Multivariate Matched Sampling and Regression Adjustment to Control Bias in Observational Studies', *Journal of American Statistical Association* 74: 318–28.

Rubin, D. B. (1997) 'Estimating Causal Effects from Large Data Sets Using Propensity Scores', *Annals of Internal Medicine*, Part 2, 15 October, 127: 757–63.

St.meld. nr. 50 (1998–9) *Utjamningsmeldinga. Om fordeling av inntekt og levekåri Noreg* [White Paper on Living Conditions in Norway]. Oslo: Statens trykning.

St.meld. nr. 6 (2002–3) *Action Plan against Poverty. White Paper on Poverty Reduction 2002*. Oslo: The Ministry of Social Affairs.

Walker, R., Greenberg, D., Ashworth, K. and Cebulla, A. (2003) 'Successful Welfare-to-Work Programs: Were Riverside and Portland Really that Good?', *Focus* 22 (3): 11–18.

Appendix

Table A1 Comparing propensity scores, before matching

	1995 cohort		*1996 cohort*	
	Non-particip.	*Participant*	*Non-particip.*	*Participant*
Work practice	.0206473	.1921629	.0229815	.1413475
Work practice ⇒ wage subsidies	.0006938	.0116755	.0011927	.0110464
Work practice ⇒ qualification programmes	.001524	.0387374	.001608	.0192166
Wage subsidies	.0092105	.0287219	.008503	.0227908
Qualification programmes	.0285133	.1469868	.0308688	.1028532
Qualification programmes ⇒ work practice	.0008205	.016571	.0014728	.0188444
Qualification programmes ⇒ wage subsidies	.0011177	.0152229	.0014559	.0135516
Qualification programmes ⇒ temporary-employment measures	.000796	.0148728	.0010236	.0191268
Temporary-employment measures	.005968	.0699298	.0070334	.0720667

Table A2 Comparing propensity scores, after matching

	1995 cohort		*1996 cohort*	
	Non-particip.	*Participant*	*Non-particip.*	*Participant*
Work practice	.1925487	.1820082	.1383233	.1336227
Work practice ⇒ wage subsidies	.0113204	.0100331	.011101	.0100972
Work practice ⇒ Qualification programmes	.0393789	.0352231	.0182327	.0167895
wage subsidies	.0284694	.0273773	.02293	.0226757
Qualification programmes	.1412314	.1291427	.0994836	.0932903
Qualification programmes ⇒ work practice	.0121281	.0111751	.0186437	.016068
Qualification programmes ⇒ wage subsidies	.0124213	.01083	.0102219	.0093332
Qualification programmes ⇒ temporary-employment measures	.0126129	.0111746	.0165948	.0149518
Temporary-employment measures	.0706312	.0672884	.0724693	.0707825

Table A3 Descriptive statistics all, income and work activity before matching 1995 and 1996 cohort

	Average working days	*Average income*
	1995 cohort	
1996	52	48,236
1997	85	57,606
1998	116	67,437
1999	123	74,031
	1995 cohort	
1997	84	57,411
1998	117	67,473
1999	123	74,104