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SWEDISH ACTIVE LABOUR MARKET PROGRAMMES IN THE 1990S: OVERALL EFFECTIVENESS AND DIFFERENTIAL PERFORMANCE

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Swedish active labour market programmes in the 1990s:
Overall effectiveness and differential performance

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Summary

The 'Swedish model' of active labour market programmes is investigated in relation to some crucial institutional features with two aims: examining how successful it has been in the context of the high unemployment atypically experienced by Sweden in the 1990s and trying to derive some general lessons as to which type of programme works best.

The effectiveness of the programmes in improving the labour market prospects of unemployed participants is assessed in terms of their impact on individual employment probability and collection of unemployment benefits over time.

The evidence as to the overall effectiveness of the programmes is rather mixed, with individuals joining a programme subsequently enjoying higher employment rates but also a higher probability of drawing unemployment benefits over time than if they had searched longer in open unemployment.

The renewed eligibility to unemployment compensation following participation in a programme appears to be a most critical driving force behind these results. In fact, when comparing the programme effects for individuals entitled to unemployment benefits to the programme effects for non-entitled individuals, the positive effect on participants' employment prospects disappears, being instead replaced by a much higher probability of benefit collection.

Still, the various programmes may have differential effects, making it interesting to quantify the relative performance of the six main types of Swedish programmes that were available to adult unemployed workers entitled to unemployment benefits in the 1990s: labour market training, workplace introduction, work experience placement, relief work, trainee replacement and employment subsidies.

The best performer is by far employment subsidies, followed by trainee replacement. The main finding that those programmes most similar to regular employment rank unambiguously highest has however to be appraised in the light of the macroeconomic literature, which has documented large and negative displacement and dead-weight effects exactly for these types of programme.

The low unemployment rates traditionally enjoyed by Sweden have often been related to the country's extensive system of active labour market programmes (ALMPs)[1], which has thus often been viewed as a model for other countries.

In the early 1990s, however, Sweden was hit by its most severe recession since the war: unemployment swiftly reached unprecedented levels, and as a policy response, so too did the offer of labour market programmes (see Figure 1).

Figure 1. Swedish total unemployment, broken into open unemployment and programme participation rates, 1985-2000 (percentage points)
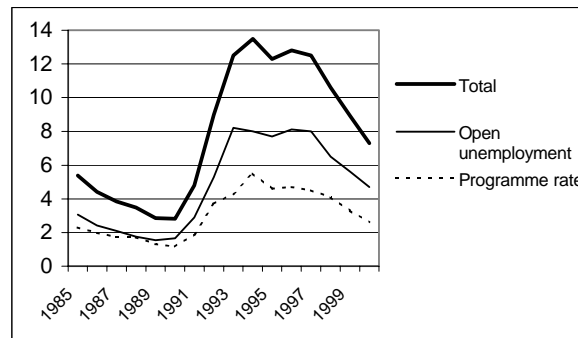
Sources: Open unemployment rate is from the Labour Force Survey (LFS). Programme rate is defined as the number of programme participants over the labour force; the former is from the National Labour Market Board (AMS) register, the latter from the LFS.

At over 3 percent of GNP, labour market programmes represented a substantial outlay for the Swedish economy, prompting research to be increasingly carried out with the aim of evaluating how successful such large-scale measures have actually been.[2]

A second feature that makes the Swedish case particularly interesting is the wide array of different programmes among which unemployed individuals can potentially choose. Although all aimed at improving job-seekers' labour market opportunities, some types of programmes provide direct incentives to move back into employment (e.g. by facilitating individuals' job search, providing wage subsides or fostering the acquisition of work contacts and references), whilst other measures try to make the working option more attractive by providing incentives to improve individual productivity and skills (e.g. *via* formal teaching or work experience). In such an institutional context, a natural question concerns the relative effectiveness of the various programmes, ideally with the aim of singling out the best performing ones. Such an exercise could prove instructive for other countries as well, in particular those who have re-

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[1] E.g. Layard, Nickell and Jackman (1991).
[2] For an extensive survey of these Swedish studies, see Calmfors, Forslund and Hemström (2001).

cently been focusing on active labour market policy.[3] Although with the obvious care required by cross-country comparisons, general lessons as to which type of programme is more effective could be shared (cf. e.g. Martin and Grubb, 2001).[4]

Accordingly, this paper relates and discusses the analyses in Sianesi (2001 and 2002) with two specific aims:

1. to investigate whether the 'Swedish model' was in fact successful in the context of high unemployment atypically experienced by Sweden, by appraising findings relating to how effective the Swedish ALMPs as a whole have been in improving the labour market opportunities of unemployed individuals over the last decade;

2. to identify which type of programme works best, by quantifying the relative effectiveness of different types of Swedish programmes.

The outcomes used to assess the performance of the programmes are individual employment prospects as well as unemployment benefit collection over time (five years).

Before turning to the review of these sets of results in Section 3 and their appraisal and discussion in Section 4 it is important to highlight several features of the Swedish institutional background which cannot be overlooked when performing the evaluation or interpreting the results. Section 1 deals with these features, whilst Section 2 sets out the corresponding framework for analysis.

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[3] Examples include the UK, where the 'New Deal for the Young Unemployed', introduced in April 1998 and sharing some of the features of the Swedish set-up, offers five types of programme; France, where a series of measures targeted at unemployed youth were introduced during the late '80s; or Switzerland, where an ambitious array of programmes was set up during the '90s. In fact, both at the OECD (OECD, 1996) and European Union (European Commission, 1998) levels, labour market programmes are increasingly viewed as important measures to reduce long-term unemployment.

[4] Microeconometric studies looking at the relative effects of Swedish programmes include among others Carling and Gustafson (1999) for self-employment subsidies *versus* subsidised jobs, Melkersson (1999a, b) and Frölich, Heshmati and Lechner (2000) for programmes targeted at the disabled, Larsson (2000) for youth programmes, Johansson and Martinson (2000) for two types of labour market training programmes and Carling and Richardson (2001) for the relative efficiency of eight of the Swedish programmes. Evaluations of differential programme impacts outside the Swedish context include the recent work by Gerfin and Lechner (2000) for Switzerland and by Brodaty, Crépon and Fougère (2000) as well as Bonnal, Fougère and Sérandon (1997) for France, and the earlier work by Ridder (1986) for the Netherlands.

1. Swedish features

1.1 Passive and active components of the Swedish labour market policy

The Swedish labour market policy has two components: a benefit system that supports individuals while unemployed and a series of active labour market programmes offered in order to improve the employment opportunities of unemployed workers.

There are two forms of unemployment compensation[5], the primary one being the relatively generous (up to 80% of the previous wage) unemployment insurance (UI), while the roughly half as generous cash assistance (KAS) was mainly designed for new entrants into the labour market.[6] The duration of compensated unemployment is in principle capped at 60 weeks for UI- and 30 for KAS-recipients. However, up to February 2001, participation in a programme allowed job-seekers to renew eligibility to unemployment compensation, making it in fact possible to indefinitely extend the period during which unemployed individuals could receive benefits.

A rather distinctive feature of the Swedish labour market policy which requires special consideration when assessing programme effectiveness during the 1990s is thus the fact that a programme effectively came as a package of two competing components. On the one hand, it was expected to equip job-seekers with marketable skills which should facilitate their re-employability, but at the same time it could be used as a passport to renewed eligibility, thus reinforcing the work disincentive associated with the generous unemployment benefit system.[7] In order to display any positive effect, any skill-enhancing component of the programme thus needed to be strong enough to outweigh the reinforced work disincentive associated with the entitlement renewability that participation allowed.

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[5] Individuals not entitled to any form of unemployment benefits may receive means-tested social insurance.

[6] As to eligibility, a certain degree of previous labour market attachment is required for UI; the 'work condition' of having worked for at least five months in the year preceding the current unemployment spell can however be replaced by an 'education condition' for KAS.

[7] Incentives to escape unemployment may have been weakened through, for example, higher reservation wages, lower search intensity or lower geographical mobility.

1.2 No programme participation in Sweden

When the aim is to evaluate the effect of a programme on some outcome of interest, an essential part of the research question concerns the comparison state. One may for instance be interested in the performance of one Swedish programme (e.g. labour market training) compared to another one (e.g. relief work). Still, interest often lies in assessing the effect of participating in a given programme (e.g. training) relative to no programme participation at all. The comparison group (or 'control group', to borrow a term from the experimental literature) should in this case be composed of the non-participants, that is those individuals not participating in any programme.

The definition of the 'no programme participation' state in Sweden is however not as straightforward.[8] The object of the evaluation is a system of ongoing programmes, taking place continuously over time and open to all registered job-seekers. Unemployed individuals in turn can – and in fact often do – register repeatedly, and they can participate in various programmes at different times during their observed unemployment history. More important still is the fact that even when focusing on individuals who have just entered unemployment, it can in general be claimed that they will join a programme at some future point, provided they remain unemployed 'long enough'; in fact, if unemployed individuals in Sweden are not observed to go into any programme, it can be argued that it is *because* they have already found a job.

Another related feature of the Swedish programme participation process is that once registered, unemployed job-seekers are most likely to take their decisions sequentially over time in unemployment. In particular, at any given moment the relevant choice open to them is not whether to participate now or not to participate *at all*, but whether to join a programme now or not to participate *for now*, in the knowledge that they can always join later on. For those who are in fact observed to find a job before going on any programme, the participation-postponing decision has proven successful. The key choice faced by the unemployed in Sweden is thus a decision between participating in a programme now or waiting longer in open unemployment in the hope of finding a job. Correspondingly, what one can evaluate in the Swedish institutional set-up (in addition to the pair-wise comparisons of the various programmes) is the average effect of joining a given programme at a certain time compared to not joining any programme *at least up*

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[8] The discussion of an absent 'non-treatment' group was initiated by Carling and Larsson (2000a, b).

to then. Subsequently aggregating all the effects by time of entry would then recover the average effect, for those observed to join a programme, of joining when they did compared to waiting longer than they have, where the average is taken with respect to the observed joining distribution of the participants. When interpreting the results it is thus important to keep in mind that the chosen comparison group does not reflect a no-programme state, but rather a possibly postponed participation.[9]

A final clarification concerns the type of assistance effectively received by those in our chosen comparison group, i.e. by those (waiting longer) in open unemployment. In Sweden, the state to which programme participants can be compared to is in fact not one of being completely left on one's own to look for a job, but rather the baseline services offered by the employment offices. Simply being registered as openly unemployed gives access to the various employment services offered by the offices, not only in terms of the increasingly computerised job information and matching of vacancies to applicants, but also in terms of the 'job-seeker activities', which include search-skill-enhancing activities such as training courses on how to apply for a job and motivation-raising activities. Note that in some countries this kind of assistance is in fact considered a programme in its own right.[10]

1.3 Richness of the data

Analyses of Swedish labour market programmes can considerably benefit from particularly rich data sources by international standards. In particular, the National Labour Market Board (AMS) records the programme and unemployment history (to the day) of *all* unemployed individuals registered at public employment offices. This register-based longitudinal event history dataset (Händel), available from 1991, provides each individual's labour market status information over time (e.g. unemployed, on a given programme, temporarily employed), together with important personal characteristics of the job-seeker and of the occupation sought. From 1994, the unemployment insurance funds provide additional information for individuals entitled to UI benefits or KAS (in particular, amount and type of compensation received, previous wages and working hours).

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[9] For more details on the implementation, see Sianesi (2001 and 2002).
[10] E.g. the Gateway period in the UK's New Deal programme for unemployed people.

The end result is thus a very large, comprehensive and representative[11] dataset, which permits both short- and long-term evaluation of the programmes and with respect to a larger number of outcomes than is generally possible.[12] The analyses discussed in the following sections make use of extensive information on the labour market history of more than 110,000 individuals who first[13] became unemployed in 1994 and were then followed for five to six years until the end of November 1999.

1.4. The 'lost' individuals

Despite the richness and thoroughness of the administrative data just described, the unemployment register does however suffer from an attrition problem. This occurs when a registered unemployed individual, having first missed an appointment at his official employment office, subsequently fails to contact the agency within a week, and is consequently de-registered with the reason recorded as 'contact ended'.

Such 'lost' individuals are problematic, in the sense that the researcher is prevented from fully observing their true labour market status: which of these spells are in reality an employment spell the former unemployed individual failed to report to the agency, and which are by contrast still part of the preceding unemployment spell? Bring and Carling (2000), who traced a sample of 'lost' individuals, found that approximately half of them had in fact found a job. The problem is not just how severely under-reported employment status is in the data, but also the fact that such under-reporting may systematically differ between programme participants and comparison group members. It is thus important that results on programme effects on employment be checked in terms of their robustness to these lost spells.

2. A framework for analysis

The richness of the Swedish data may justify the use of methods of analysis based on 'selection on observables', i.e. the key assumption that the evaluator can observe all of

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[11] Unemployment individuals entitled to compensation are required to be registered at a public employment office in order to collect their benefits, and only registered individuals have access to the programmes. In fact, over 90% of the unemployed do register at an employment office (from a validation study by Statistics Sweden, quoted in Carling, Edin, Harkman and Holmlund, 1996, Footnote 7), making the employment register-based dataset quite representative of the population of interest.
[12] Examples include unemployment – in particular of the benefit-compensated type –, employment, subsequent programme participation, out of the labour force – including further regular studies.
[13] Strictly speaking, one cannot exclude the possibility that these individuals have had contact with the unemployment office before August 1991, the date when Händel starts.

the systematic differences (which are believed to affect labour market outcomes) between groups of individuals entering the different programmes or postponing their participation decision. Before briefly discussing the plausibility of this assumption in relation to the available information as well as the selection process into the Swedish programmes, the following sub-section first sketches out the evaluation problem of interest and the method of analysis chosen.

2.1 The evaluation problem

Our evaluation problem consists of quantifying the average effect on programme participants' subsequent labour market performance from joining a programme when they did compared to waiting longer in open unemployment than they have. Additionally, we are interested in assessing the relative effectiveness of different types of programmes.

More specifically, three evaluation questions will be addressed concerning

(1) the effect of joining any programme compared to waiting longer, for individuals participating in any programme;

(2) the effect of joining a specific programme *P* compared to waiting longer, for participants in *P*; and

(3) the effect of joining a specific programme *P* compared to joining another programme *P'*, for participants in *P*.

To frame the problem in general terms, let us follow an established terminology in the evaluation literature and define a set of 'treatments' whose effectiveness is to be compared in the three evaluation questions:

Question	Treatment *A*	Comparison treatment *B*
(1)	Join any programme	Wait longer in open unemployment
(2) (3)	Join programme *P*	Wait longer in open unemployment Join programme *P'*

Notes: *P* and *P'* are two different programmes, e.g. labour market training *versus* relief work.

The aim is thus to evaluate the average effect for an individual of receiving treatment *A* compared to a hypothetical state in which he received treatment *B*. This amounts to addressing the question of how the post-treatment outcome of unemployed workers participating in treatment *A* compares, on average, to how they would have fared had they taken comparison treatment *B* instead. The average outcome following treatment *A* for

individuals who have participated in *A* is observed in the data; by contrast, since no in-dividual can be in two different states at the same time, assumptions need to be invoked to identify the counterfactual average outcome participants in *A* would have experienced had they taken treatment *B* instead.[14]

The simple comparison between the observed performance of individuals taking treatment *A* and individuals receiving treatment *B* is however likely to reflect the *composition* of the unemployed workers taking different treatments: groups of unemployed individuals with quite different characteristics are in fact observed to go into the various programmes or else to find a job before joining any, and their observed differences (e.g. qualifications, previous wage, pre-programme unemployment duration) are quite likely to affect the way they would have performed anyway, even had they chosen another treatment.

One way to adjust for such differences in characteristics between groups *A* and *B* is offered by statistical matching, which pairs to each individual in group *A* an individual from group *B* with the 'same' observable characteristics.[15] Under the 'selection on ob-servables' assumption that all the outcome-relevant differences between groups *A* and *B* are captured by observable characteristics, the average outcome experienced by the matched pool of *B*-participants can be used to proxy the counterfactual outcome partici-pants in *A* would have experienced, on average, had they taken treatment *B* instead.[16]

2.2 Selection into the Swedish programmes

As has already been highlighted, the method of matching just outlined requires the re-searcher to observe all those differences between the various treatment groups that are

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[14] Identification assumptions and estimation of treatment effects in non-experimental studies have been extensively examined. Standard references in the evaluation literature include the comprehensive survey by Heckman, LaLonde and Smith (1998), as well as Heckman and Robb (1985), Heckman, Ichimura and Todd (1997, 1998), Heckman, Ichimura, Smith and Todd (1998), Rosenbaum and Rubin (1983, 1985) and Rubin (1974).

[15] Matching estimators can in practice be implemented by exploiting so called 'balancing scores', vari-ables which provide a parsimonious way to adjust for differences in a (generally large) set of characteris-tics. The determination of such variables for a single treatment *versus* no-treatment comparison is due to Rosenbaum and Rubin (1983), whilst Imbens (2000) and Lechner (2001) (see also Brodaty, Crépon and Fougère, 2000) have generalised the approach to the case where a whole range of mutually exclusive treatments is available. For the technical details of the present implementation, see Sianesi (2001 and 2002).

[16] Note that an additional condition is required, which in particular rules out the possibility of general equilibrium effects.

likely to affect their outcomes. It thus important to consider what observables are in fact available in relation to the selection process into the Swedish programmes.

To this end, Figure 2 summarises the extensive discussions in Sianesi (2001 and 2002) by highlighting the agents – the unemployed job-seeker, his caseworker and the local conditions prevailing at his employment office – whose interactions determine the outcome of the selection process (i.e. whether an individual joins a programme and if yes which one), as well as how these respective influences are captured in the available data.

Figure 2. Selection process into the Swedish programmes and key available *regressors*
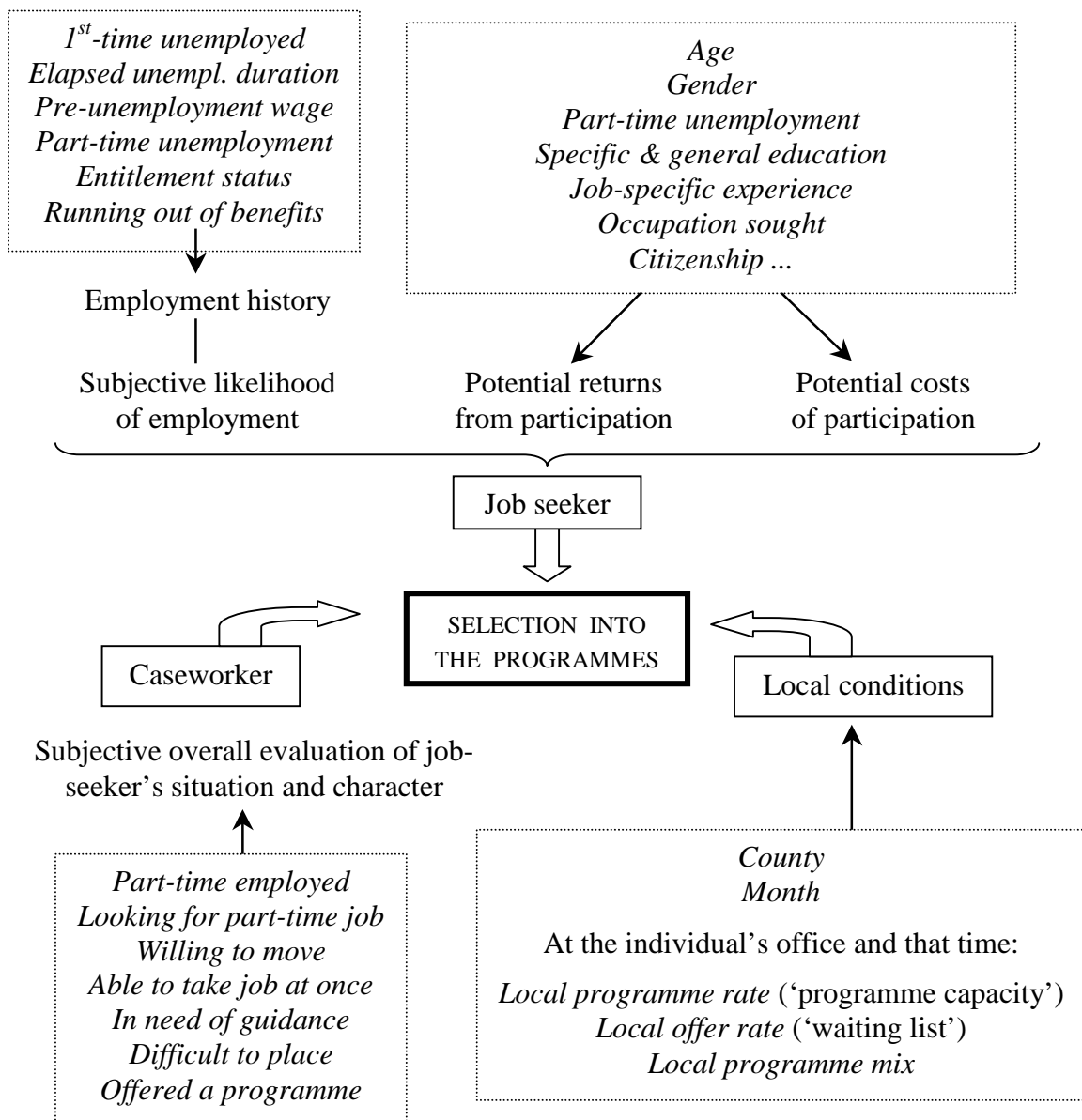
The decision between waiting further in open unemployment or joining a (i.e. any) programme appears to be driven by the individual's subjective likelihood of employment (Harkman, 2000, as reported in Carling and Richardson, 2001), which could in turn be proxied by several pieces of information characterising the recent employment history of the individuals; one can also control for factors relating both to employment prospects and either to potential returns from programme participation or to the opportunity cost or psychological cost of participation. Additional useful information allowing us to capture caseworker selection relates to the officials' own subjective and synthetic overall evaluation of the situation and character of their unemployed client, summarising individual traits that are potential indicators of unobserved heterogeneity. This latter type of information proves particularly valuable also when considering the decision to choose one specific programme among the available ones, since Harkman (2000) has found the relevant decision-maker to be the caseworker in this case.

Finally, local indicators at the individual's municipality / employment office level over time should control for the possibility that individual joining decisions and/or office-specific programme selection criteria may be based on local unobserved characteristics which in turn may correlated with individuals' labour market performance.[17]

3. Some empirical results for the 1990s

Before moving on to the empirical findings, the main conclusions emerging from Section 2 are that: benefit entitlement considerations should not be overlooked when assessing the past effectiveness of the Swedish programmes; both analyses and interpretation of the results need to take account of the non-standard definition of the 'comparison group' in the Swedish context, and some robustness checks should try to take account of the 'lost' individuals. This last issue aside, the available data is very representative and includes a wide array of demographic and human capital variables, together with information on unemployment history and unemployment benefit receipt, as well as the caseworker's appraisal of various factors relating to the overall situation and needs of service of the job-seeker. Such unusual richness of the data has motivated the matching approach from which the following results were obtained.

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[17] A possible source of violation of the 'selection on observables' assumption would be the presence of hidden job offers, that is if individuals waiting longer have decided to do so because they know they will be hired shortly.

3.1 The Swedish ALMP system as a whole

It seems appropriate to begin by focusing on the overall performance of the Swedish system – a system comprising both a collection of programmes and a closely inter-twined unemployment benefit component. Sianesi (2002) has examined the effective-ness of the Swedish unemployment system in improving the opportunities of unem-ployed individuals over the last decade, so that results reviewed here are based on all of the programmes combined into one, and relate to the question of how job-seekers who join a Swedish programme perform, on average, compared to a situation where they would have searched longer as openly unemployed.

As to the employment prospects of programme participants, although joining a pro-gramme has a negative effect in the very short term, the programmes' impact on partici-pants' more long-run employment probability is positive and significant. As shown in Figures 3A, joining a programme is initially expected to reduce the chance of finding employment: compared to open unemployment, job search whilst on a programme is clearly reduced because less time is left due to participation itself (the 'lock-in effect').

Figure 3. Average effect for participants of joining a programme (compared to waiting longer in open unemployment) on employment probability over time

(A) 95% confidence intervals bands   (B) worst-case and best-case bounds
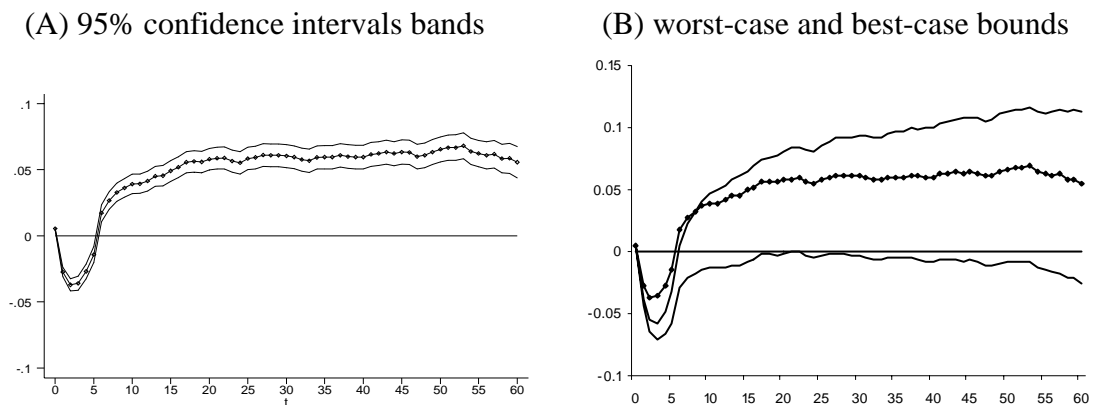
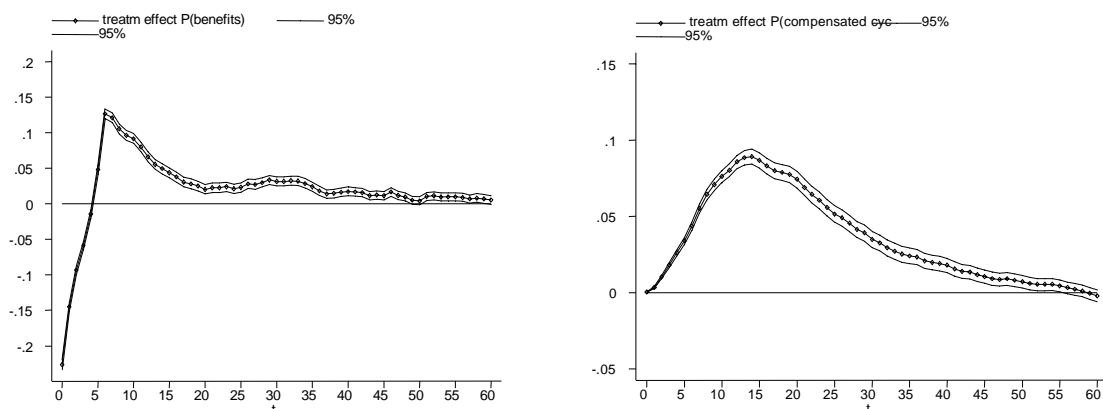Notes: Time in months, with *t*=0 at programme start.

Nevertheless, after a programme typically ends, participants do appear to perform significantly better than if they had waited longer in open unemployment, with their participation decision paying off in terms of an average of 5 percentage points higher long-term employment probability (for at least up to five years). Various sensitivity analyses, bounds and imputation techniques have highlighted that this evidence is in fact likely to be quite robust to the problem of the 'lost' individuals. Figure 3B in par-

ticular shows the worst- and best-case bounds for the programme effect on employment rates, which were derived exploiting the additional information from the Bring and Carling (2000) survey.

By contrast, the fact that programme participation entitles individuals to renewed unemployment compensation is indeed found to create strong incentives to remain within the official unemployment system, in particular to be drawing unemployment benefits over time and on a 'cycling' basis. Figure 4A shows that *as soon as* the programme typically ends (i.e. after approximately 5-6 months), the negative effect on benefit collection probability (by construction, compensation while on programmes is not counted as unemployment benefits) abruptly turns into a large positive one of almost a 15 percentage point higher probability.

Figure 4. Average effect for participants of joining a programme compared to waiting longer in open unemployment on

(A) benefit receipt probability over time   (B) compensated cycle probability over time

Notes: Time in months, with t=0 at programme start.
         95% confidence intervals bands.

Over our horizon, participants remain significantly more likely to be drawing benefits up to four years after having joined the programme than if they had waited longer in open unemployment. In fact, they are likely to be drawing benefits on an unemployment-programme cycling basis. This can clearly be seen when considering the effect of joining a programme (rather than waiting longer) on the probability of subsequently being alternating between compensated unemployment spells and (benefit-renewing) programme spells. To this end, an individual who is openly unemployed or on a programme is defined to be in the midst of a 'compensated cycle' if his present unemploy-

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ment or programme spell is part of an uninterrupted chain of alternating unemployment-programme spells, where in *each* of the unemployment spells the individual draws unemployment compensation. As revealed by Figure 4B, there is quite a sizeable positive programme effect on compensated cycle probability, reaching 10 percentage points and persisting for well up to 50 months after entry into the programme. The fact that former programme participants keep going on various programmes without exiting unemployment, is clear evidence of a failure of the programme system itself, while the importance of compensated cycling behaviour points to a likely failure in the way in which incentives are taken into account by the intertwined unemployment benefit-programme institutional system.

Overall, the impact of the programme system is thus found to have been mixed, in line with both programme components being at work: the skill-enhancing component and the work disincentive element. Compared to longer job search in open unemployment, individuals joining a programme are found to be more likely to return to benefit-compensated unemployment, to re-enter more programmes in the future, or to alternate between benefits and program participation over time. At the same time, however, joining a programme also considerably reduces the probability of being unemployed *outside* the official (and compensated) unemployment system, and to a lesser extent of exiting the labour force. In fact, the net effect is that unemployed individuals who go on a programme sooner (compared to later or never) have on average a higher probability of being in employment from six months after joining the programme for up to at least five years.

Nevertheless, further results in Sianesi (2002) investigating the linkages between entitlement to unemployment compensation, programme participation and programme effects seem to indicate that the skill-enhancing component of the programmes may not always be strong enough to outweigh the work disincentives provided by the system. In particular, for individuals entering a programme around unemployment benefit exhaustion – a time when entitled job-seekers are found to unmistakably enjoy (an over 10 percentage points) preferential access to the programmes (cf. Figure 5) – the various programme effects are consistently found to be among the worst than for any other groups of participants. In addition to the disappointing results in terms of the probability of employment, de-registration from the unemployment office, regular studies and espe-

cially benefit receipt over time, by far the worst programme effect in terms of compensated cycling probability is displayed by those joining a programme at benefit exhaustion.[18]

Figure 5.   Marginal effect of UI-status on the probability of joining a programme (percentage points difference in the programme joining probability with respect to non-entitled individuals with the same characteristics of UI individuals), by months in unemployment prior to joining a programme
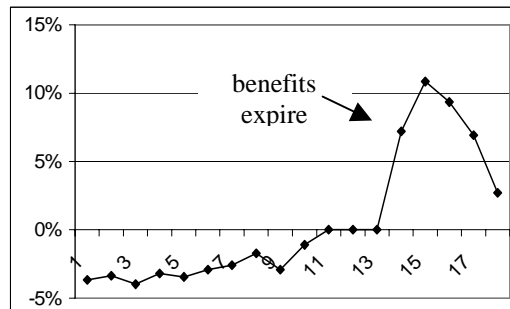
Various pieces of evidence thus consistently point to entitlement (renewability) considerations as a weighty driving force behind the direction and strength of the observed programme effects.[19] When assessing the effectiveness of the Swedish programmes, it is therefore believed that a critical issue concerns the co-ordination and interaction between the programmes and the unemployment insurance system.

The next sub-section presents some further analyses that single out those individuals whose incentives are most likely to be affected: job-seekers entitled to unemployment benefits.

3.2 Programmes for unemployed adults: the role of entitlement status

To shed more light on the linkages between entitlement to unemployment compensation and programme effects, this sub-section directly contrasts the programme effects for that sub-group of adults who were entitled to unemployment compensation when first

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[18] The average programme effect for this group is an average 8 percentage points higher probability of being in the midst of a compensated cycle over time, as opposed to 1.8 percentage points for individuals joining a programme in their first month of unemployment and 3.5 percentage points for the whole group of participants.

[19] Previous Swedish evidence on the importance of issues relating to unemployment benefits, work disincentive effects and cycling behaviour includes Ackum Agell, Björklund and Harkman (1995), Carling, Edin, Harkman and Holmlund (1996), Regnér (1997), Agell and Lundborg (1999), Carling, Holmlund and Vejsin (1999) and Hägglund (2000).

registering as unemployed to the programme effects for unemployed adults who were *not* entitled to benefits at the start of their unemployment spell.

Following the previous sub-section, focus of the evaluation is on the *overall* effectiveness of the six main Swedish programmes available to adult individuals at the height of the economic recession in 1994: labour market training, workplace introduction (API), work experience placement (ALU), relief work, trainee replacement and employment subsidies.[20]

Figure 6A (B) plot the average effect on employment probability for an entitled (respectively for a non-entitled) unemployed individual of joining one of the above programmes, rather than searching in open unemployment for at least a while longer. The two figures offer a striking contrast. Although joining a programme initially has a significantly negative lock-in effect for both sub-samples, programmes appear to reduce their entitled participants' job search intensity much more severely, with a substantial lock-in effect of almost 20 percentage points compared to 5 for the non-entitled sub-sample.
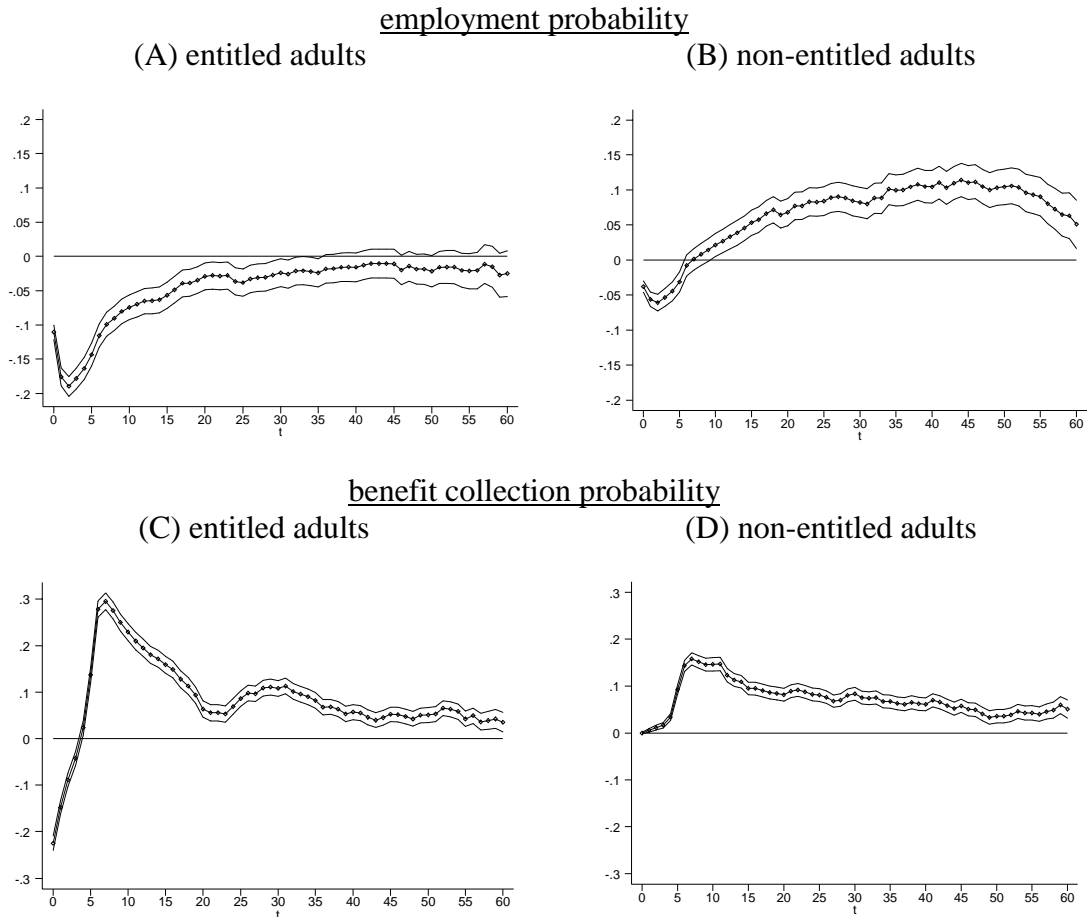
However even after the typical 4-5 months duration of a programme, entitled participants do not seem to enjoy higher employment rates than if they had postponed their participation decision further. In fact, the negative programme effect persists for up to three years after entry into the programme, after which former participants become just as likely to be in employment as if they had further searched in open unemployment. These results are in sharp contrast to those for the non-entitled sub-sample, for whom a significant and substantial positive effect of the programmes was already visible just after 6 months.

Figure 6C plots the programme effect on the probability of compensated unemployment for the entitled sub-sample. The comparison with the effect for the non-entitled sub-sample (Figure 6D) is again very revealing, with twice as much of a positive effect on benefit receipt probability for entitled individuals (peaking to 30 percentage points) compared to non-entitled individuals (up to 15 percentage points). Finally, results for the entitled sub-group display a pronounced second 'hump' starting around the 24th month (=5 months on the programme + 14 months of maximum benefit collection + 5 months on another programme) and lasting for another 14 months – a feature likely to

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[20] Results for the non-entitled sub-group relate to five programmes, since ALU is reserved to entitled individuals only.

be linked to cycling incentives, whereby programmes are simply viewed and used as a gateway to renewed benefit eligibility.

Figure 6. Average effect for participants of joining any of the programmes[a] compared to waiting longer in open unemployment on

<u>employment probability</u>

(A) entitled adults   (B) non-entitled adults

<u>benefit collection probability</u>

(C) entitled adults   (D) non-entitled adults

Notes: [a] Training, API, ALU, relief, replacement and subsidies for entitled; all but ALU for non-entitled.
        Time in months, with t=0 at programme start.
        95% confidence intervals bands

In conclusion, the results – both in terms of employment rates and of benefit collection probability over time – for the sub-sample of entitled adults just considered are considerably worse than those obtained for the sub-group of non-entitled adults. Contrasting these two sets of results would thus lend support to the conjecture that for individuals entitled to unemployment compensation, the eligibility renewability rules are likely to significantly distort the incentives for participation and thus wipe out potential productivity-enhancing effects of several types of programmes.

Still, even when focusing on entitled individuals, the six programmes considered may well have heterogeneous effects: while some of them may simply lock participants in rather useless or low-qualified tasks that will give them no subsequent edge on the labour market, some others may endow participants − and even participants entitled to unemployment benefits − with skills marketable enough to make the working option sufficiently attractive. The following sub-section thus moves a step further and disaggregates the composite 'programme' analysed above into its six distinct components.

3.3 Differential programme performance

In order to focus on that group whose incentives appear to be most affected and for whom the trade-off between skill-enhancing components of the programmes and the reinforced work disincentive associated with the benefit system should be at its sharpest, this sub-section more closely examines the sub-sample of entitled individuals considered above.[21] In particular, it reports and discusses selected results by Sianesi (2001) investigating both the separate and the relative performance of the six main Swedish programmes available to entitled adults in the mid 1990s and considered as a whole in the previous sub-section.

Additional interest in this sub-sample arises from the fact that individuals entitled to unemployment benefits not only have exclusive access to ALU – a measure introduced in 1993 with the explicit aim of preventing entitled individuals from running out of benefits – but also enjoy 'special' conditions on programmes of wider access (in particular, they are in principle granted the right to relief work when approaching benefit exhaustion).

Table 1 contrasts the main features of these programmes, which all aim at improving their participants' re-employment prospects, though by providing them with distinct kinds of skills and in quite diverse ways.

Labour market training is intended to teach participants new vocational skills deemed in demand in a formal (classroom) environment. By contrast, the two 'work practice schemes' – API and ALU – offer a workplace traineeship to gain practical on-the-job experience, good working habits and references which should later prove useful on the

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[21] Almost 31,000 adult individuals who were entitled to either UI or to KAS when first registering as unemployed in 1994 make up this sub-sample.

Table 1. Synoptic table of the main features of the programmes

PROGRAMME	AIM	ELIGIBLE	EMPLOYER	TRAINING	TASK	COMPENSATION[a]	EMPLOYER INCENTIVES	COST[b]
EMPLOYMENT SERVICES	fill job openings quickly, job search assistance and training			job seeker activities		UI/KAS if entitled		
LABOUR MARKET TRAINING (AMU)	equip individuals with skills to find jobs more easily	>20	priv. and publ. providers	full-time vocational training		TA/BA course free		1,753
WORK PRACTICE								
Work experience placement (ALU)	prevent exhaustion of benefits while maintaining contact with the regular labour market and enhancing good working habits	entitled ≥20	90% public and non-profit		otherwise not performed	TA/BA	free labour	1,169
Workplace introduction (API)	contact with working life to get work-place training, job-experience and references	≥20	private and public	practical vocational training	otherwise not performed	TA/BA	pay tuition to government (2,000 SEK/month)	879
TEMPORARY JOB								
Relief work	specially created temporary jobs to maintain working skills and habits, also to avoid benefit exhaustion	>25	2/3 in public sector (municipalities and state organizations)		otherwise not performed	according to collective agreement	grant 50% of labour cost up to fixed amount (SEK 7,000/month)	1,157
Trainee replacement	enhance skills of employee while providing an unemployed individual with work experience in a regular job	≥20	80% in public sector	on-the-job practice	replaces regular employee	according to collective agreement	grant 50% of labour cost up to fixed amount (SEK 7,000/month); deduction of training costs; educational grant of up to 20,000 SEK per employee	964
EMPLOYMENT SUBSIDIES	establish permanent employment relation	≥20 ≥6months unemployed	private sector only; from 97 some industries excluded	on-the-job practice	normal	according to collective agreement	grant 50% of labour cost up to fixed amount (SEK 7,000/month)	751

Notes: Information has been gathered from various sources, in particular, Swedish Institute (1997).
[a] TA is training allowance equivalent to the UI or KAS the individual would have been entitled to; BA is the basic amount (SEK 103 per day) if the individual is not entitled. [b] Total monthly cost per participant (1998 USD); such information is from AMS (1998) and has been taken from Carling and Richardson (2001, Table 1), SEK converted to USD at the average 1998 exchange rate of 7.952SEK/USD.

regular labour market, while relief work involves specially created temporary jobs, mostly in the public sector. Participants in these latter three types of programme are however prevented – at least formally – from performing tasks that are part of the organiser's normal activity. Although it is likely for such a rule to be often interpreted more as a recommendation[22], to the extent it is adhered to, the type of on-the-job practice acquired may not be expected to be particularly marketable.

Similar to relief work, trainee replacement schemes offer an unemployed individual a temporary job by allowing him to replace a regularly employed worker on leave for education. Finally, employment subsidises not only represent a temporarily subsidised job opportunity to acquire job-specific skills, but in fact aim at initiating a permanent employment relationship, the engagement being implicitly expected to continue on a regular and indefinite basis after the programme. Like the two work practice schemes and relief work, trainee replacement and employment subsidies thus offer the opportunity to gain skills and experience on the job; in these latter cases, though, the participant does in fact replace ordinary labour. Finally, while trainee replacement is intrinsically a temporary opportunity to invest in job-specific skills, employment subsidies almost entail the 'promise' of a permanent job.

Figures 7 looks at the separate effectiveness in terms of participants' employment rates of each of the six programmes compared to a hypothetical situation where participants would have searched longer in open unemployment. Joining any of the programmes is again confirmed to have a negative lock-in effect on participants' short-term employment probability, reducing their chances of being in employment by an over 15 percentage points probability in each case. The impact of joining a programme on more medium- and long-term employment prospects is however found to radically vary according to which programme the individual has joined.

In particular, participants in trainee replacement and in API are just as well off as if they had been searching further as openly unemployed, while the decision to enter a job subsidy programme significantly pays off in terms of persistently higher employment rates (up to 40 percentage points) soon after the programme typically ends. By contrast, for our sample of entitled unemployed adults it seems more worthwhile to intensively search longer in open unemployment rather than joining labour market training, ALU or

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[22] From e.g. circumstantial evidence in Hallström (1994; reported in Ackum Agell, 1995).

relief work. In fact, participants in these programmes subsequently enjoy *lower* employment rates than if they had postponed their joining decision further, with these negative effects persisting over a long time horizon before turning insignificant.

Figure 7. Unemployed adults entitled to unemployment benefits: Average effect on employment probability over time of joining the specified programme compared to waiting longer in open unemployment for participants in the specified programme
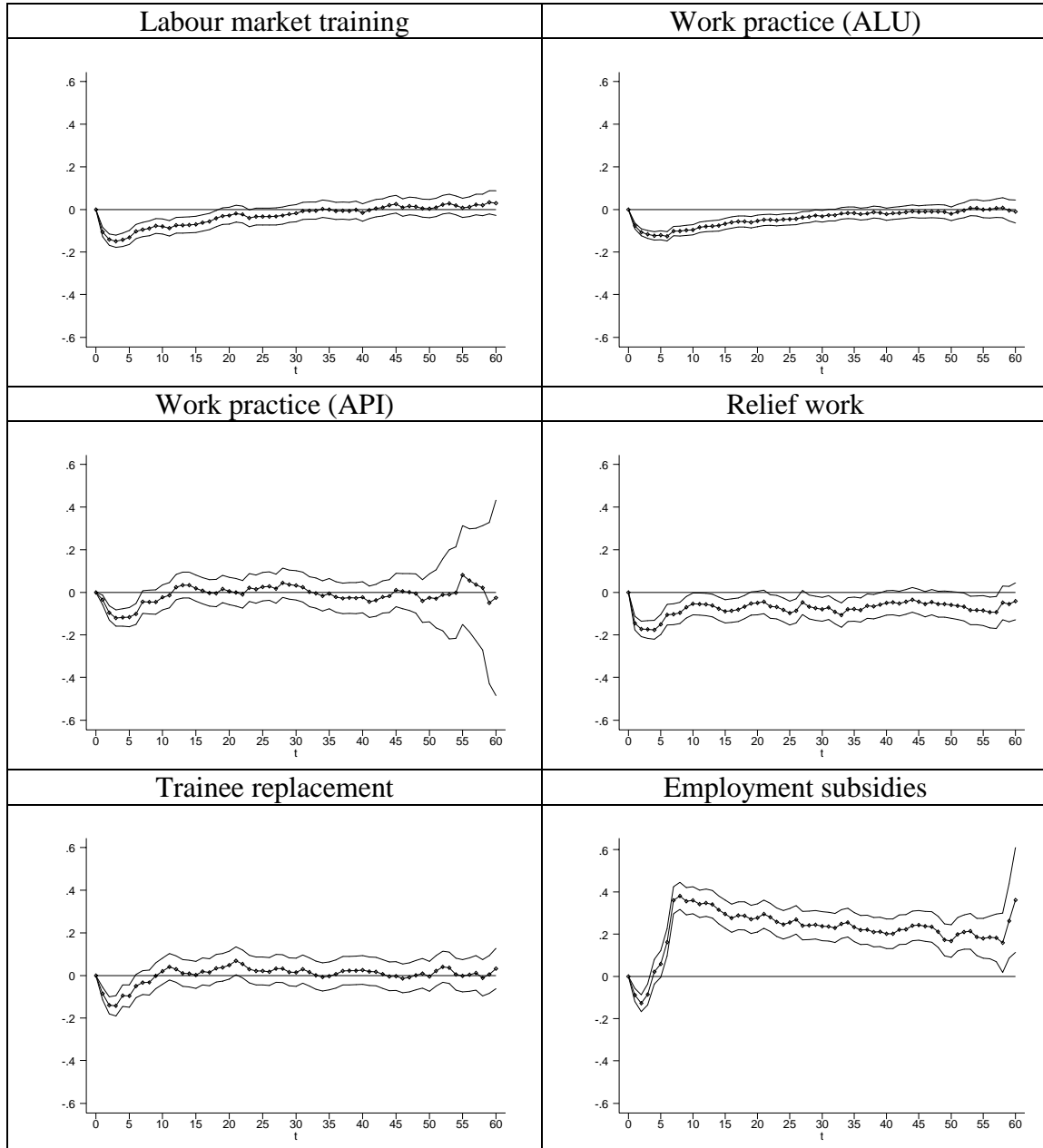
Notes: Time in months, with *t*=0 at programme start.
             95% confidence intervals bands.

The use of these latter types of programmes simply as a way to re-qualify for unemployment benefits is likely to be at the root of these disappointing results. In fact, Sianesi (2001) finds employment subsidies to be the only programme to display a *negative* effect on compensated unemployment probability compared to postponing the participation decision, while the trainee replacement programme has a zero effect. By contrast, participants in labour market training, relief work and either of the two work practice schemes ALU and API are all considerably more likely to be drawing benefits over time than if they had waited longer in open unemployment. Furthermore, for participants in these latter programmes there is clear evidence of unemployment-programme 'cycling' effects. It is also quite revealing to compare the potentially different effectiveness of the two work practice measures, ALU and API. As previously mentioned, whilst sharing the basic features of API, ALU is exclusively reserved to entitled individuals and has been explicitly instituted to prevent them from exhausting their benefits. It is thus not too surprising that compared to waiting longer in open unemployment, the performance of ALU is slightly worse than that of API in terms of employment probability over time and that ALU participants display an even stronger propensity to be drawing benefits on a visibly 'cycling' basis compared to waiting longer than do API participants had they waited longer too. The explicit, close link between entitlement renewability and programme (as institutionalised in the case of ALU) would thus seem to severely impact on the programme's effectiveness on the labour market performance of its participants.

Finally, Sianesi (2001) evaluates the relative performance of the six programmes, investigating how participants in programme *A* would have fared had they joined programme *B* instead.[23] The main conclusion is that in terms of both employment rates and benefit collection probability, the best performer is undisputedly employment subsidies, followed by trainee replacement.

Table 2 summarises the results from the various pair-wise comparisons in terms of employment rates. More specifically, individuals having joined the subsidy programme consistently enjoy a much higher (20 to 50 percentage points) employment probability over time than if they had joined an alternative programme. In addition, participants in any of these other programmes (with the possible exception of trainee replacement

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[23] Note that all these results are quite robust to the problem of the 'lost' individuals; the worst- and best-case bounds for all the combinations of treatments have been derived in Sianesi (2001).

schemes) would have fared considerably better had they gone on job subsidies instead. The second best performing programme is trainee replacement: former deputies have considerably better employment prospects than if they had joined any other of the remaining programmes (in particular, training or work practice). Conversely, trainees and work practice participants would have improved their labour market performance had they joined a replacement scheme. As to the remaining programmes – labour market training, work practice and relief work – they do not seem to perform in a significantly different way between one another in terms of employment probability over time.

Table 2 Informal summary of the pair-wise conditional average programme effects on employment probability over the 5-year horizon since programme start

Comparison ↓	**Training**	**Work practice [a]**	**Relief**	**Replacement**	**Subsidies**
Training		0	mostly 0	positive	large positive
Work practice	0		mostly 0	positive	large positive
Relief	0	0		mostly 0 positive up to 15m	large positive
Replacement	negative then zero from 30m	negative	0 (neg. but insignificant at 95%)		large positive
Subsidies	large negative	large negative	large negative	mostly negative	

Notes: This summary takes informal account of the statistical significance of the estimated effects; for the complete set of results, see Sianesi (2001).
[a] API and ALU combined. m = month(s).

4. Summary and discussion

The first research question set out in the introduction concerned the effectiveness of the Swedish unemployment-programme system in improving individual labour market opportunities during the recession of the 1990s. The evidence considered in the paper has been rather mixed; individuals joining a programme are found to subsequently enjoy higher employment rates but also to be more likely to draw unemployment benefits over time than if they had searched longer in open unemployment.[24]

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[24] It may be worthwhile to stress again that these programme effects do not relate to the effect of joining a programme compared to *never* joining any, but rather compared to delaying participation at least some more time further while searching for a job in open unemployment.

Comparing the main lessons arising from studies performed at different times (in particular the switch from positive effects of Swedish labour market training in the 1980s to negative ones in the 1990s[25]), it may thus seem that the collection of measures that appeared to be quite effective in a low-unemployment environment may no longer be so successful if applied – and on a massive scale – in periods of severe economic downturns. On the other hand, it may also be argued that it is exactly in such difficult times of high unemployment when effective labour market programmes are be most needed to place participants back into work. Similarly, the large scale at which programmes have been administered may have prevented the efficient management and tailoring of the various measures.

Nevertheless, possibly the most critical factor appears to have been the link between the programme system and the unemployment benefit system, an interaction quite likely to intensify in periods of high unemployment and unstable labour market conditions. Various pieces of evidence concerning this link have been combined and discussed. In particular, the evidence for individuals entitled to unemployment benefits provided a sharp contrast to the findings relating to non-entitled individuals, quite unmistakably pointing to distorted incentives behind programme participation as a most likely force behind the disappointing programme effects.

All of these considerations thus raise the important issues as to whether there may be more efficient means of providing (sustained) unemployment compensation, as well as whether some programme expenditure could be more effectively redirected, for instance towards market-based incentives to stimulate labour demand (e.g. by decreasing payroll taxes).

The second question motivating the paper concerned the possibility of scrutinizing the Swedish experience in order to derive some general lessons as to which type of programme works best. The answer that has emerged is that those programmes most similar to regular employment rank unambiguously highest, an overall conclusion not only in line with other Swedish analyses, but also with studies looking at different countries with varying labour market structures and policies.[26]

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[25] For more details, see Calmfors, Forslund and Hemström (2001).
[26] For Sweden, cf. in particular the programme ranking obtained by Carling and Richardson (2001). For a summary of other Swedish evidence in line with the present results, see the review by Calmfors, Forslund and Hemström (2001). For OECD countries see the review by Martin and Grubb (2001) and e.g. Gerfin

In particular, while on employment subsidies or trainee replacement the participant performs a task that is by construction a useful one, one for which the firm is willing to pay a regular employee. These programmes should thus teach demonstrably market-relevant skills, in contrast to e.g. labour market training with its emphasis on the class-room-based acquisition of new skills which are deemed to be – or soon to become – in demand. A second advantage of these programmes is that they can be used as a cheap screening device of the participant's initially unknown productivity in a regular task. For employment subsidies – with their informal promise of a job – there is thus a valuable opportunity for mutually trying out the likely future employment relationship on a low-cost basis. For trainee replacement, a signal is sent out to potential employers that the individual has been gaining (or at least maintaining) relevant skills. Participants in either type of programme are thus likely to become more attractive to potential employers, who value the fact that a job is being performed in the regular competitive market.

By contrast, it appears that the formal vocational skills taught by labour market training, as well as the working skills, additional work experience, improved working habits, fresh contacts and references that relief work and the two work practice schemes are intended to provide may not be relevant – and thus valuable – enough to fetch a return on the labour market, or at least not one high enough to make the working option more attractive, this being particularly the case for individuals entitled to unemployment benefits. These types of programme are then likely to be regarded just as a gateway to renewed benefit eligibility, ending up locking their participants – in particular their entitled participants – in the unemployment system.

In the light of these results, it is actually worth pointing out how the ranking of the programmes in terms of their effectiveness is almost perfectly reversed when viewed in terms of their expensiveness (1. training, 2. ALU, 3. relief work, 4. trainee replacement, 5. API and 6. subsidies – cf. Table 1, last column).

It is however important not to jump to hasty conclusions as to which programmes should attract most public funds. As to job subsidies, apart from an increasingly restricted legal possibility of extension[27], both survey and econometric Swedish studies

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and Lechner (2000) for Switzerland, Brodaty, Crépon and Fougère (2000) and Bonnal, Fougère and Sérandon (1997) for France, and Ridder (1986) for the Netherlands.

[27] The public sector cannot use such grants, and following EU regulations in 1997 neither do employers in the synthetic fibre, automotive, steel, shipyard, fishery and transport industries.

have found sizeable direct displacement effects (of around 65-70 percent).[28] Similarly, broadening such a measure is bound to lead to substantial dead-weight effects (i.e. subsidising firm hirings that would have taken place anyway). For trainee replacement too, dead-weight losses have been both suspected in terms of the sponsored training[29], as well as documented in terms of the deputies, with a large share of participants found to be alternating between regular short-term jobs and trainee replacement with the *same* employer (see Harkman, Johansson and Okeke, 1999). Similarly, survey studies have uncovered displacement effects of the same order as employment subsidies (e.g. AMS, 1998).[30]

In conclusion, although this paper has presented and discussed results which, perfectly in line with previous micro evidence, have found that a programme's benefits to its participants are highest the more it resembles regular employment, several macro-economic studies have documented large and negative displacement and dead-weight effects exactly for this type of programme. As discussed by Calmfors, Forslund and Hemström (2001), labour market policy-makers are confronted with a difficult trade off.

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[28] For more details, see Calmfors, Forslund and Hemström (2001).

[29] Since 80 to 90 percent of employers taking part in the scheme are within sectors (health care and related branches in the public sector) with a long-standing system for further training funded by the employer, it seems likely that a good part of the sponsored training would have occurred anyway. (I thank Anders Harkman for this information.)

[30] 42 percent as an average across survey studies, see Calmfors, Forslund and Hemström (2001).

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