

Why is Unemployment so Low in Denmark? Evidence from Four Social Experiments*

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Abstract

We analyse the effects of four randomised experiments in active labour market policy conducted in Denmark in 2008. The experiments entailed different combinations of early and intensive treatment in terms of meetings and activation. The effects are remarkable; fortnightly individual meetings between newly unemployed workers and case workers can increase employment rates over the next two years by 10% corresponding to 5 weeks. For men, we find evidence of a large threat effect of having to participate in early activation programmes, while no such effect is found for women. In general, we find large differences between men and women, especially in the exact timing of the effects. We conduct a cost-benefit analysis of each of the four experiments and find that individual meetings yield the largest net gains to society.

JEL-Codes: J64, J68

Keywords: Social experiment, treatment effect, active labour market policy, cost-benefit analysis

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1 Introduction

This paper reports results on four randomised social experiments involving early and intensive active labour market policy conducted in Denmark in 2008. The intensification consisted of a dramatic increase in counseling and monitoring and of early mandatory activation programs. These experiments shed light on the nature of active labour market policy impacts, and in particular on their differential effects on men and women. Moreover, they strongly suggest that the role of counseling and monitoring through meetings between case workers and unemployment workers is the most effective instrument in the active labour market policy toolbox.

In 2005, the first Danish labour market policy experiment was conducted, Quickly Back to Work (QBW1, hereafter), see Graversen & van Ours (2008), Rosholm (2008), and Vikström *et al.* (2011). It involved a dramatic intensification of active labour market policies in the sense of providing unemployed workers with different treatments at a very early stage of unemployment. This experiment involved a number of active labour market policy instruments, i.e. job search training courses, frequent meetings with case workers, and early mandatory activation. The results were overwhelming: those who were randomised into the treatment group experienced a 3 week reduction in unemployment duration compared to those in the control group, and a cost benefit analysis conducted by the Danish Economic Council (2007) demonstrated large potential gains.

However, there was some uncertainty as to the source of the success; was it the whole package, or were certain elements of the package crucial? Could even better results be obtained by focusing on single elements of the package, or could similar effects be obtained at lower costs? To shed light on these questions, a new set of four randomised experiments were designed, Quickly Back to Work 2 (QBW2, henceforth). Indeed, these experiments were designed in such a way that they would yield estimates of the effects of single elements of the QBW1 package.

The QBW1 and QBW2 mark an interesting paradigmatic change in the approach of policy makers to active labour market policy making in Denmark: While it has not yet been fully implemented, it is the stated intention that policy changes should now be preceded by the collection of empirical evidence on its likely impact. For example, since the QBW2 experiment in 2008, four more sets of experiments have been or are being conducted, intended to foster further refinement of the use of active labour market policies in Denmark. For this reason alone, we believe that it is appropriate to refer to

Denmark as a laboratory for active labour market policies. Active labour market policies are a pivotal element in the so-called Flexicurity model for the labour market, which the EU commission recommends to its member countries, referring to Denmark as a model case (**reference?**).

The Flexicurity model consists of three components; 1) flexible hiring and firing rules and regulations (that is, low levels of employment protection legislation), similar in spirit to those in anglo-saxon countries 2) a generous and universal unemployment insurance and social assistance system, similar to that in other Scandinavian welfare economies, and 3) *a very active labour market policy* ensuring the availability and the qualificational level of the work force.

In the 1980s, when unemployment rates were persistently high, the first two features of the Flexicurity model - flexibility in the labour market and the tight social safety net - were already features of the Danish labour market, but active labour market policies were only in their infant stages and not nearly as intensive as they have become today. Therefore, most observers have seen intensive active labour market policies as a pivotal component in the Flexicurity model. Our paper also sheds further light on the validity of such an assessment.

We find large positive effects of some of the policy components investigated, and there are enlightening differences, especially with respect to the type of policy, the gender of the unemployed worker, and the timing of the effect (**age effect??**). Counseling and monitoring in the form of individual meetings between case workers and unemplyed workers have very large effects, arising much later for men than for women, while mandatory acitvation programme has a large (threat-) effect for men, while there are no effects for women. The analysis demonstrates that early and frequent meetings with unemployed workers is the most efficient way of assisting newly unemployed workers, and a cost-benefit analysis shows that it is also the most beneficial instrument from an economic point of view.

The rest of the paper is organised as follows: first, we provide a brief overview of the literature on ALMP effects with a special emphasis on the effects of meetings between case workers and clients, since there already exists several surveys and summaries of the impacts of ordinary activation policies. Next, in section 3, we describe the social experiments, and in section 4 the data used for the analysis is presented. Section 5 contains a presentation of the effects of each of the four experiments which we analyze further in section 6 using a duration framework in order to analyze how treatment affects the unemployed. In section 7 we perform a rudimentary cost-benefit analysis of each experiment.

Finally, section 8 discusses further research, policy implications, and concludes.

2 Literature

There exists an extensive literature on the impacts of 'traditional' active labour market policies in the form of activation, which has been surveyed by e.g. Heckman *et al.* (1999), Card *et al.* (2010), and Kluge (2010). These surveys show that policy impacts are very modest and not always positive in the sense of increasing subsequent employment.¹ The type of activation policies that have the best effects are private sector employment subsidies, while training programmes sometimes have positive effects when aimed at less skilled workers or workers with problems beyond unemployment (e.g. single mothers, immigrants, etc.). Public job creation rarely shows positive effects and often negative effects, possibly due to so-called lock-in effects.

2.1 Meetings

In the following we provide a brief survey of studies that deal with a less analysed aspect of active labour market policies, namely meetings held between case workers and clients (the unemployed). Such meetings are often neglected in studies of active labour market policy effects, although they constitute the cornerstone of active labour market policies: First, unemployed workers typically register their entry into unemployment at meetings, where also their eligibility for receiving some kind of income assistance, be it unemployment insurance benefits, unemployment assistance, or other social welfare transfers, is assessed. Second, the search effort of the unemployed is typically monitored at meetings, where the unemployed worker must provide some documentation of having sent a certain number of application or some similar requirement. Here, the case worker often also must provide a subjective assessment of whether the person is really available for work. If there is some sort of non-compliance, either in the form of no-show or insufficient search and/or availability, a sanction can then be issued. Third, counseling, general job search assistance, and direct placement in jobs will also often take place at meetings between case workers and unemployed workers. Counseling can be anything from helping with the creation of a

¹For example, Card *et al.* (2010) document that in the short run, only 39% of the surveyed studies found significantly positive effects. In the medium term, effects were slightly better, with 50% being significantly positive, and only 10% significantly negative.

CV to some type of coaching, where the unemployed is assisted in making career choices etc. Job search assistance ranges from advice on how to write good applications over the more specific tasks of finding suitable vacancies to direct mediation. Finally, it is typically the case that future participation in activation programmes is discussed and planned at meetings between the client and a case worker.

In many cases, attendance at meetings at certain regular intervals of unemployment periods are mandatory, and no-show may lead to a (temporary) loss of transfer income. In this sense, meetings have the potential of affecting individual behaviour *ex ante* (via know job search documentation requirements) as well *ex post* (via search requirements, job search assistance, and potential behavioural effects stemming from the knowledge of future activation). In the following, we study first *ex ante* effects, then we look at *ex post* effects in the forms of both counseling and monitoring, and finally we investigate other aspects of interactions between case workers and their clients.

2.2 *Ex ante* effects of meetings

Black *et al.* (2003) study a profiling tool aimed at identifying workers at risk of long term unemployment (LTU). Workers with a high estimated risk of long term unemployment would then be invited to a meeting with the aim of placement in an activation program. Due to capacity constraints, not all workers at risk of LTU could be invited, and the selection of whom to invite was randomised. The authors show that workers at risk of LTU react to an invitation by increasing job finding rates right after receipt of the letter. Unemployment duration was shortened by 2.2 weeks, and the income of workers receiving the letter was higher than for the controls during the year after receipt of the letter. Finally, this led to cost savings worth 143\$ per unemployed worker. These findings correspond quite well with the conclusion from three observational studies based on Danish data and one on German data showing that unemployed workers tend to leave unemployment faster when the probability of activation increases (Geerdsen, 2006; Geerdsen & Holm, 2007; Rosholm & Svarer, 2008; van den Berg *et al.*, 2009).

Hägglund (2006) reports from a randomised experiment conducted in Sweden and shows that, for a broad group of unemployed workers, an invitation to a meeting, aimed at monitoring search activity and assisting with more effective job search, led to an increase in the exit rate into employment by 46% already before the meeting took (or should have taken) place.

Cockx & Dejemeppe (2007) analyse the effect of a reform in Belgium in 2004 leading to more intensive monitoring of job search activities of workers with more than 7 months of unemployment. A letter was sent out to the unemployed informing them of this reform, and in general the authors find no impact. However, for better educated workers they do find significantly positive effects, and for workers who attended a meeting in relation to the information letter, there was also a positive effect.

2.3 *Ex post* effects of meetings: Counseling

Meyer (1995) reports results from 5 U.S. experiments aimed at better counseling. Four out of the five experiments led to significant reductions in subsequent unemployment, and the reductions in unemployment ranged from 0.5 to 4.3 weeks. Meyer (1995) does point out that it is not obvious whether the effects stem from the increase in counseling or whether there are monitoring effects as well.

Dolton & O'Neill (1996; 2002) analyzed the effect of the ReStart program; In England, an offer of meetings every six months for workers with more than six months of unemployment was introduced in 1989. The aim of the meetings was effectivisation of search behaviour and assessment of availability for work. In connection with the introduction of the ReStart program, a randomised experiment was conducted by excluding 600 workers from the meetings. These would then constitute the control group. Dolton & O'Neill (1996) showed that this led to a 30% increase in exit rate from unemployment, and Dolton & O'Neill (2002) showed that 5 years after entry into the program, the treated still had significantly less unemployment than the controls.

Gorter & Kalb (1996) report results from a randomised experiment conducted in a number of Dutch cities, where the treatment consisted in increasing the time allocated to counseling at meetings between case workers and clients. They find positive but insignificant effects on the exit rate from unemployment.

Blundell *et al.* (2004) analysed the introductory part of New Deal for Young People, called the Gateway. It consisted of frequent (fortnightly) meetings with a mentor with the aim of encouraging and effectivising job search. The study exploits the implementation as a pilot-project before the nationwide implementation to construct a difference-in-differences estimator of the impact of the Gateway. They find an increase in the employment rate of 5%-points 4 months after entry into the Gateway.

Crepon *et al.* (2005) analyse the effect of a reform implemented in France in 2001,

which increased counseling without altering the amount of monitoring. At the first meeting, the unemployed are screened with the aim of offering them one of four treatments, which differed by their treatment intensity and whether they were aimed at strong or weak groups of unemployed workers. They found a tendency that programmes aimed at stronger workers increased the exit rate from unemployment, and that all programmes increased subsequent employment duration.

Hägglund (2009) analyse the effect of a social experiment conducted in Sweden, where unemployed youth were offered counseling. He found that in two municipalities, where the treatment was aimed at all unemployed youth, there were positive effects on the exit rate from unemployment, while this was not the case in two other municipalities, where the treatment was only aimed at long term unemployed youth. This corresponds quite well with results from a randomised Danish study, Rosholm & Svarer (2009b), where intensive counseling to long term welfare recipients did not - in general - lead to more employment.

2.4 *Ex post* effects of meetings: Monitoring

There are quite a few studies analysing the effect of increasing the rate of monitoring of unemployed workers. These generally find a positive or zero effects in the sense of reduced subsequent unemployment duration and/or increases in employment rates.

Ashenfelter *et al.* (2005) report from a U.S. randomised experiment conducted in four job centres (Connecticut, Massachusetts, Virginia og Tennessee), which investigated if increased monitoring of search activity led to reductions in unemployment duration and payments of unemployment benefits. The number of meetings were unchanged, but the search requirements were stricter for the treatment group. The increase in monitoring was only implemented during the first couple of weeks of unemployment. There was no effect of the increased monitoring on neither unemployment duration nor on the costs of unemployment benefits.

Klepinger *et al.* (2002) study another U.S randomised experiment, where unemployed workers are randomised into one of four treatments (or into a control group), which involved closer monitoring of different degree and type. Unemployment duration was reduced by 5-7%. Johnson & Klepinger (1994) find similar results based on an experiment conducted in Washington, U.S.A.

Van den Berg & van der Klaauw (2006) reports from a randomised experiment in Rotterdam with monthly meetings involving increased monitoring and planning of future

job search. They found a switch from informal to formal search channels as a result of the search and documentation requirements, and positive but insignificant effects on the exit rate from unemployment to employment. Keeley & Robins (1985) find something similar for the U.S. using observational data.

McVicar (2008) exploits exogenous variation in the number of meetings held with the aim of monitoring search activity in the U.K. The exogeneity comes from cancellation of meetings due to reconstruction work on the buildings used by the case workers. He found that the exit rates from unemployment fell when meetings were cancelled due to reconstruction.

Petrongolo (2009) and Manning (2009) both analyse the Job Seekers Allowance programme implemented in the U.K in 1996. This involved frequent meetings with a case worker to document job search activity. They use observational data and some exogenous variation in the timing of the treatment relative to the start of unemployment and find increasing exit rates out of unemployment. However, this is mainly caused by an increased exit rate into incapacity benefits.

2.5 Other aspects of meetings

Fougere *et al.* (2009) perform a microeconomic analysis of the impact of job assignments (by case workers) using French data. They find that job assignments reduce the search effort of unemployed workers, but they also find that the assignments themselves more than outweighs this reduction, such that job finding is faster with job assignments. They find particularly strong effects for the unskilled. Engström *et al.* (2009) find no effects of assignments in a Swedish context.

Behncke *et al.* (2008, 2010a, and 2010b) investigate the importance of the case worker, using a survey among Swiss case workers, which has subsequently been matched with a data set on unemployed workers, such that case workers and their clients can be linked. They use matching techniques in all three papers to investigate the importance of the case workers' characteristics/attitudes/strategies. They find impressive effects. In the first paper, they show that unemployed workers who have a case worker with a strong network among employers have 3%-points higher employment rates subsequently. In the second paper, they show that unemployed workers assigned to case workers who are less 'cooperative' have 2%-points larger employment rates subsequently. Finally, in the third paper, they show that if case workers and clients are similar with respect to

age, gender, and educational level, then the unemployed worker has a 4%-point higher subsequent employment rate. This trilogy of studies therefore adds further insight into the importance of meetings via case worker contacts; case workers provide contacts to potential employers; they put pressure on unemployed workers to search harder, and they can relate to their situation and provide useful insights on job search.

In an analysis on German data, Hainmueller *et al.* (2009) report results from a pilot study, where 14 job centres were allowed to hire more case workers so as to reduce their case load from 100 unemployed workers per case worker to 50. They use matching techniques at the job centre level to investigate the impact on the local unemployment rate. They find that the increase in the number of case workers reduced the local unemployment rate by 0.5%-points and the number of SC III unemployed by 10%. Reporting a few more details from the same pilot study, Hofman *et al.* (2010) show that the impact was larger if all the additional resources were devoted to either dealing with the unemployed workers through meetings or improving the employer network, while there was absolutely no effect if the resources were devoted to strengthening the organisational structure of the job centre.

Finally, if unemployed workers do not show up for meetings or if their search efforts are judged to be insufficient, sanctions can be issued; in this sense sanctions are also a result of the contacts between unemployed workers and their case workers. A number of studies have investigated the effects of sanctions. Lalive *et al.* (2005) and Arni *et al.* (2009) both find that warnings that a sanction may be imposed increases the job finding rates of unemployed workers. Van den Berg *et al.* (2004), Abbring *et al.* (2005), Lalive *et al.* (2005), van den Berg & Vikström (2009), Røed & Weslie (2008), and Svarer (2010) all find that sanctions issued increase the subsequent job finding rate dramatically. The range of the effect on the job finding rate is from 25% to 100% depending on the country and the severity of the sanction. Finally, Arni *et al.* (2009) and van den Berg & Vikström (2009) show that those who are sanctioned find less favourable employment than the unsanctioned in terms of wages and job duration.

2.6 Summary of literature survey

In this section, we have surveyed the literature that exists on the importance of the contacts between unemployed workers and case workers. Our reading of this literature is that the effects are remarkably large and consistently so; of the 37 studies referred to

above, 29-31 had significantly favourable effects, and only 6-8 had no effects. None of the studies found significantly unfavourable effects. There are *ex ante* effects of meetings, counseling effects, monitoring effects, job assignment effects, and there are important aspects of the case workers that could be exploited, and finally, sanctions - which are a result of contacts between case workers and unemployed workers - have dramatic effects on job finding rates.

We would argue that this evidence on the importance of meetings and case workers is much more consistent, and the effects are much larger, than that obtained from the analysis of traditional activation policies. We would therefore argue that meetings (and, thus, case workers) appear to be crucial components in reducing the structural rate of unemployment. **One caveat remains, however; to our knowledge, there is no evidence on the general equilibrium effects of meetings. There might be important substitution and other side effects of having meetings with some workers (and not with others, at the same time).** - her kunne man håbe på noget fra vores papir og fra Crepon)

We now wish to shed further light on the importance of early and intensive active labour market policies in general on the importance of meetings in particular by reporting results from a set of randomised Danish labour market policy experiments.

3 The Danish labour market and the experiments

First, we will briefly summarise the organisation of the Danish labour market. In general, the Danish labour market is characterised as flexible with less employment protection legislation than most continental European countries, and has a tight social security net with near-universal eligibility for some type of income transfer. Moreover, active labour market policies are among the most intensive in OECD, with around 1.5% of GDP spent per year on active policies.

In Denmark, there are two types of benefits for unemployed workers, unemployment insurance (UI) benefits and social assistance. Approximately 80% of the labour force are members of a UI fund and therefore eligible for UI benefits, while the remaining 20% may receive social assistance (given that they do not have a partner who can provide for them and do not have any savings). As this paper is only concerned with UI benefit recipients, we shall present the policies that apply to UI benefit recipients.

The "rights and obligations" principle is a key principle in the current Danish labour

market policy. This implies the rights of individuals to compensation for the loss of income, but also the obligation to take action to get back into employment. The society has the obligation to help the individual improve her situation and has the right to make requirements of the individual concerned.

Under the current rules, an individual who becomes unemployed and is eligible for UI benefits has to register at the local job centre within the first 4 weeks of unemployment. She then has the obligation to attend a meeting with a case worker at least every 3rd month. She has the right to participate in an activation programme of her own choice lasting up to 6 weeks during the first 9 months of unemployment (6 months if you are below 30 years of age or above 60). After 9 (6) months of unemployment, she has the obligation to participate in an activation programme of at least one weeks duration. If a person is still unemployed 26 weeks after programme completion, she is required to participate in another activation program. After 2.5 years of unemployment, the requirement is programme participation full-time. After 4 year of UI benefit receipt, the unemployed person is no longer eligible for UI benefits, but may receive unemployment assistance. The eligibility rules have recently been reformed, such that by mid 2012, the maximum duration of UI benefit receipt is 2 years.

3.1 The experiments

The set of randomised experiments analysed in this paper consists of four separate experiments, each with its own treatment and control groups. They were conducted in four different regions in Denmark. They are summarised in Table 1.

Table 1. Overview of the 4 experiments in QBW2

Experiment	Content	Region	Jobcentres
A	Group meeting each week	Northern Jutland	Frederikshavn, Brønderslev, Hjørring
B	Individual meeting w. case worker every other week	Copenhagen & Sealand	Holbæk, Roskilde, Gribskov, Ishøj-Vallensbæk, Vordingborg
C	Early activation (after 13 weeks)	Mid Jutland	Aarhus
D	Early activation and group meeting each week	Southern Denmark	Esbjerg, Vejle

The target group of the experiment is the inflow into unemployment during weeks 8-29 in 2008 of workers eligible for UI benefits. Once an individual registers as unemployed, she is randomised into the treatment or the control group based on her date of birth; individuals born on the 16th-31st in a month constitute the treatment groups, while those born on the 1st to the 15th make up the control groups. No information was given to the unemployed workers on the selection rule.

The individuals randomised into the treatment groups then receive a letter, during the first week of unemployment, explaining the new treatment to which they shall be exposed. This information letter marks the start of the treatment, since the worker may react to the information on the new regime from the day the letter is received. It was not possible to escape treatment by leaving unemployment for a short while and then re-enter shortly after week 29. In that case, you would re-enter the experimental treatment at the stage where you left it.

In all four experiments, the control group receives the standard treatment as explained above. There may be local variations in the intensity of the standard treatment, but this will be documented below.

Starting from the bottom of Table 2, the experiment labeled 'D' is a type of reference experiment intended to mimick the QBW1 experiment from 2005-6, although there are some deviations. It was conducted in the region of Southern Denmark (consisting of Southern Jutland and Funen). From the first week of unemployment, each week the unemployed worker shall attend a group meeting with a case worker and a number of other unemployed workers (typically around 10). If, after 13 weeks of open unemployment, she has not found employment, she has to participate in an activation programme of at least 25 hours per week for at least 13 weeks. After 6 months of unemployment, the experimental treatment ends, and from that point on, she receives treatment according to the current rules, i.e. the same treatment as the control group. The intention with this experiment is to investigate if the positive results from the first experiment, QBW1 (see e.g. Graversen & van Ours, 2008), can be reconstructed.

The experiment labeled 'A' in Table 2 was conducted in the region of Northern Jutland, and it consisted of weekly groups meetings (similar to those in Southern Denmark) during the first 13 weeks of unemployment. After these 13 weeks, the experimental treatment ends, and the unemployed worker would be treated similarly to those in the control group that have not found employment after 13 weeks. The intention with this experiment was to investigate if meetings would lead to positive effects when held with groups of

unemployed. The idea was that this would be cheaper and might lead to network effects.

The experiment labeled 'B' in Table 2 was conducted in the region of Copenhagen & Sealand, and it consisted of individual meetings with a case worker every other week for the first 13 weeks of unemployment, that is, a total of 6-7 meetings during the first 13 weeks of unemployment. Again, after 13 weeks of unemployment, those still unemployed in the treatment group would receive the same labour market policy as the control group in that region. The intention with this experiment was to investigate whether the positive effects of QBW1 derived mainly from the individual meetings.

Finally, in the experiment labeled 'C', the individual would be required to participate in an activation programme at least 25 hours per week from week 14 in unemployment until week 26. After that, treatment would be similar to that administered to the control group. This experiment was designed to investigate the presence of threat effects, that is, *ex ante* effects of the knowledge of having to participate in activation programs.

The aim of the entire set of experiments was to try to disentangle the positive impacts of the the first QBW1 experiment, and to investigate cost-reducing policies such as group meetings rather than individual meetings. First, the distinction between 'B' and 'C' informs us whether an early programme effect stems mainly from the threat of mandatory programme participation (a threat effect) or from an effect generated by meetings, or both. Second, a comparison between 'A' and 'B' would shed light on whether group meetings could achieve the same impacts as individual meetings. Finally, the comparison of 'A' and 'D' would tell us if the combination of group meetings would have better effects than just group meetings, and the comparison of 'C' to 'D' would tell us if the combined group meetings and early activation would lead to better effects than just group meetings.

4 Data

The data for the evaluation of the experiments were extracted from administrative registers of the National Labour Market Authority and made available to the research community. These registers are used for determining eligibility for UI benefit receipt and for determining whether the job centres meet their requirements in terms of meetings and activation intensities. The information is therefore considered highly reliable.

There were 6802 individuals in the administrative register, who had registered as

unemployed in one of the 11 jobcentres which were part of the experiments, between week 8 and week 29 of 2008, both weeks inclusive. Out of these, 3 were erroneously placed in the wrong group (treatment or control) on the basis of their birth date and were therefore removed from the data set. A large number turned out to not to be eligible for UI benefits (either they were eligible for social assistance instead or had erroneously registered themselves as unemployed). The final data set contains 5411 individuals, and their distribution on treatment and control status and on the four experiments can be seen in Table 2.

Table 2. Composition of the sample

Experiment, region	Men		Women	
	Treatment	Control	Treatment	Control
A (group meetings)	304	303	261	310
B (individual meetings)	376	455	343	371
C (early activation)	393	405	454	428
D (group meetings + early activation)	247	247	266	248

We have tabulated the averages of a number of individual characteristics are presented for each of these sub-samples, and there are no significant deviations from random assignment.² **we also know from earlier that is works/elaborate??**

From the administrative registers, we have weekly information on labour market status, meeting attendance, and programme participation, for each person in the sample. Each person can be followed until the end of August 2010, that is, the last week of observation is week 34 of 2010. Labour market status is calculated based on information from the register on payments of public income transfers, which is used to construct the labour market states 'unemployment' and 'other public income transfer'. Moreover, the e-income register contains information from employers on earned income, which is then used to construct weeks of employment. Finally, there is a residual category, called 'self-sufficient', consisting of the self-employed and individuals that are neither working nor receiving any income transfers (e.g. housewives).

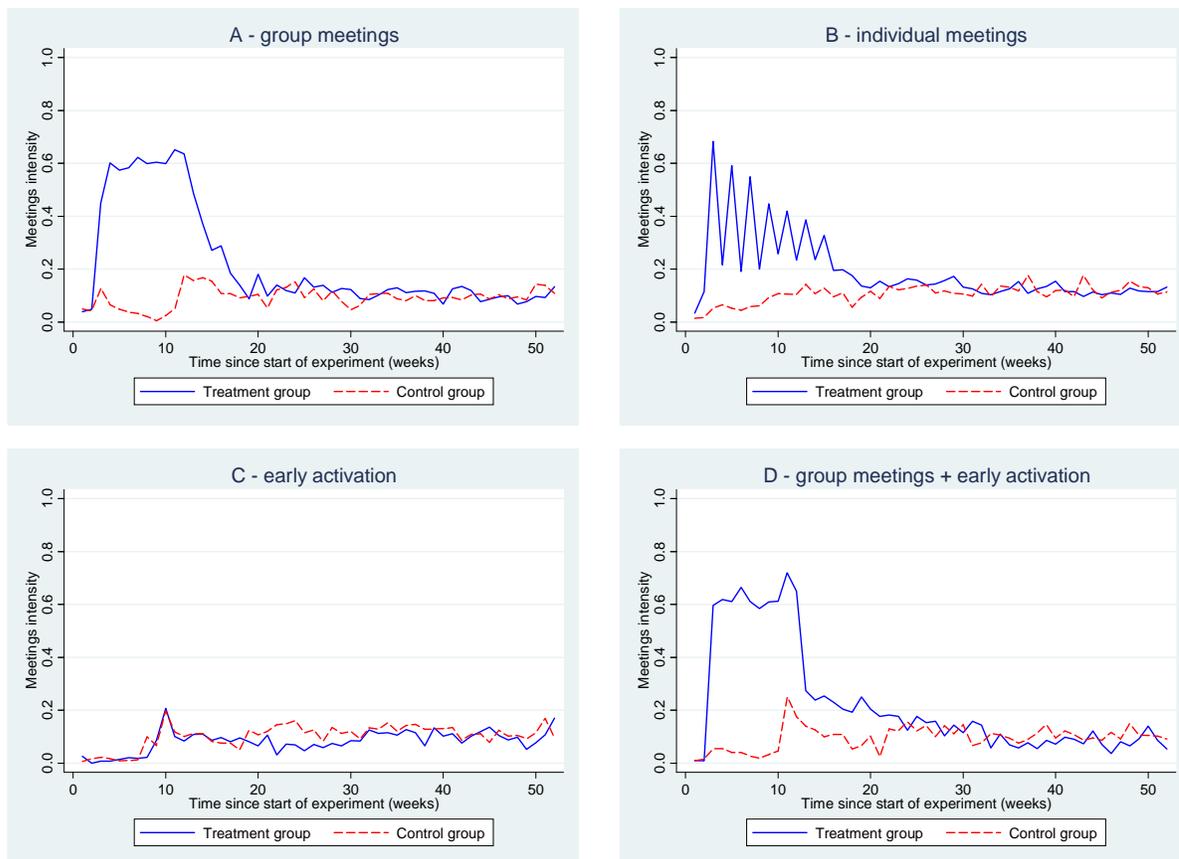
Given the sampling window (week 8-29 in 2008), all individuals can then be followed for at least 111 weeks (there are 53 weeks in 2009) and for at most 132 weeks after their entry into unemployment. We can also follow individuals back in time, although the employment information is available only from 2008 onwards.

²The tables are not included in the paper but are available on request from the authors.

4.1 Implementation

In this subsection, we present evidence on the implementation of the four experiments. To show the degree of compliance to the experimental protocol, we show a set of figures on the weekly meeting intensities and activation intensities.

Figure 1: Weekly meetings intensities



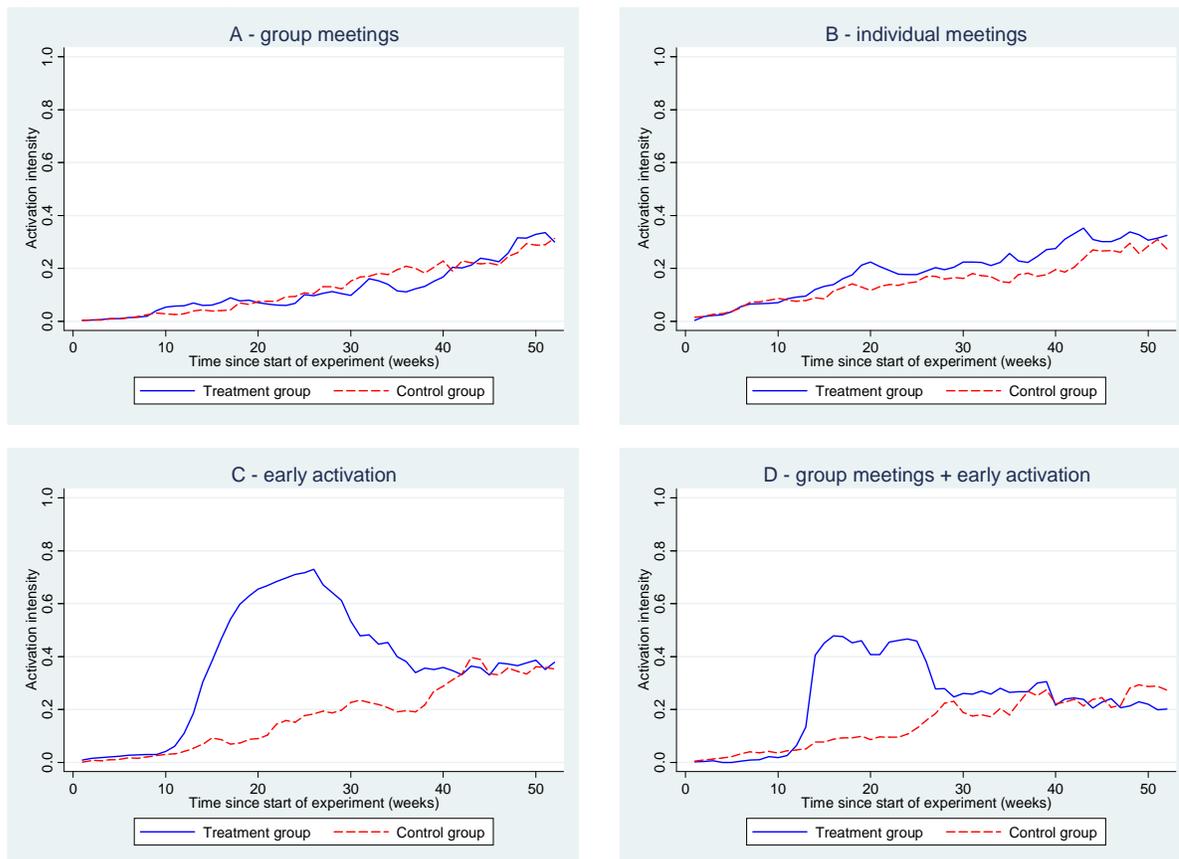
Note: meetings intensities for those who are still unemployed in a given week.

In experiments A and D the treatment group were intended to participate in collective meetings on a weekly basis. In both projects, we see that only around 60 percent of the treatment group participated in meetings in any of the first 13 weeks. In experiment B, we observe a saw-tooth pattern reflecting the fortnightly meetings. Summing the meetings intensities for two consecutive weeks, the fortnightly meetings intensity begins around 90% and then falls to about 65% around week 13. In experiment C there was no intention of extra meetings, and this is also what we observe in the data. Hence, even though participation in meetings does not comply completely to the requirements of the experiment, the treatment groups in the three relevant projects attended much

more meetings than did the corresponding control groups during the early phases of the unemployment spell.

In all four experiments is the meeting rate for the treatment and the control groups the same after the period of the experimental treatment.

Figure 2: Weekly activation intensities



Note: activation intensities for those who are still unemployed in a given week.

In the two projects with scheduled early activation, we see a sharp increase in the activation intensity around week 13. Again, not everyone in the treatment group is activated between week 13 and 26, but the activation intensity is much higher for the treatment group than for the control group, especially in experiment C. In Experiment D, which was conducted in two job centers in Southern Denmark, it turns out that one of the job centres did not implement early activation at all. That is, for the treatment group in that job centre, the treatment was the same as for the treatment group in experiment A.

In all regions do we observe an increase over time in the activation intensity for those who remain unemployed in the control groups. This follows naturally from the large

focus on active labour market policy in the Danish flexicurity model (see e.g. Andersen & Svarer, 2007). After the end of the experimental treatment period (at week 26), the activation rates for treatment and control groups converge rather quickly.

All in all, the meetings and activation intensity figures reveal that the treatment groups to a large extent received the intended treatments (with the exception of one job centre in Southern Denmark), and they were at any rate treated much more intensely than the control groups in the relevant dimensions. In the following, we will investigate how the four projects have affected the employment status of the treatment groups compared to the control groups.

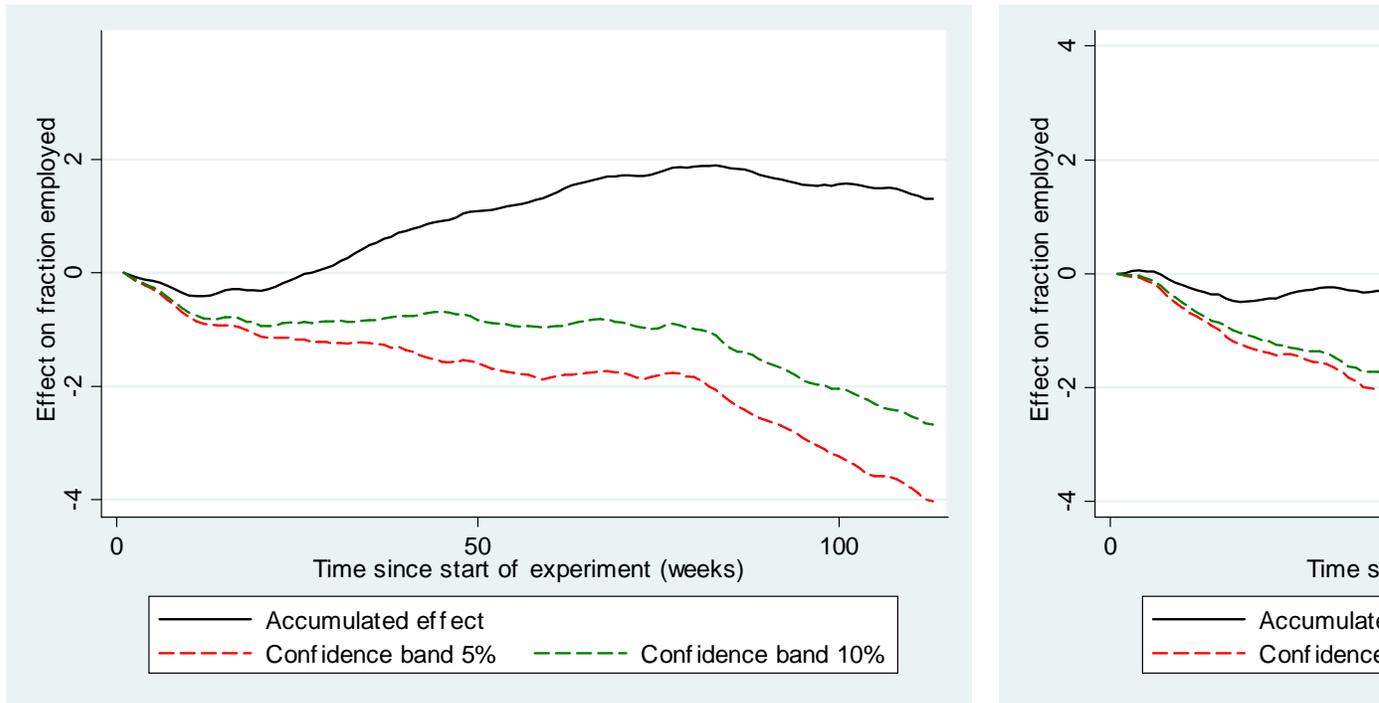
5 Results

In this section, we present the effects of the four experiment on the employment rate of the unemployed. These will be reported separately for men and women for reasons that will become obvious.

skulle vi nævne bootstrap metode

Figure 3: The employment effect of experiment A (group meetings)

Women

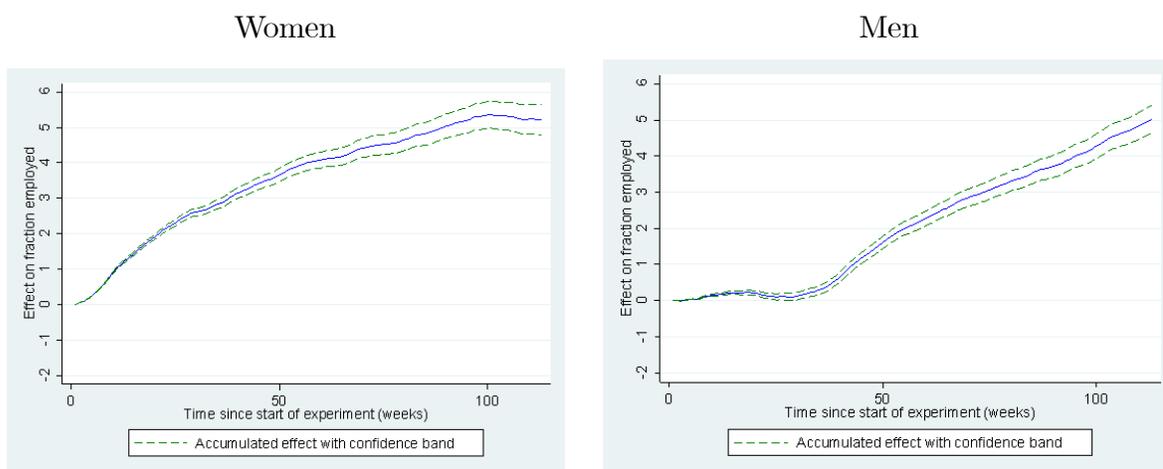


Note: The figure shows the accumulated difference in the employment rate between the treatment and control group. The **one-sided** confidence bands are obtained by bootstrapping.

Figure 3 shows the employment effects of experiment A, the group meetings. The reported effect is obtained by taking the weekly difference in the fraction employed between treatments and controls and accumulating it. This accumulated number corresponds to the extra number of weeks spent employed for the treatment versus the control group up until a given week.

For women, there are negative employment effects in the short run, but already after 30 weeks the accumulated effect becomes positive. 52 weeks after the beginning of unemployment, women in the treatment group have spent a week more employed than women in the control group, and after two years, the effect is almost 2 weeks. For men there is also a positive effect of about 2 weeks two years after entry into the experiment, but it arises much later than for women. The fact that the effect arises at such a late stage suggests that the primary channel through which group meetings affect employment is via longer job duration rather than shorter unemployment duration, and this result appears to hold more strongly for men than for women.

Figure 4: The employment effect of experiment B (individual meetings)



Note: The figure shows the accumulated difference in the employment rate between the treatment and control group. The one-sided confidence bands are obtained by bootstrapping.

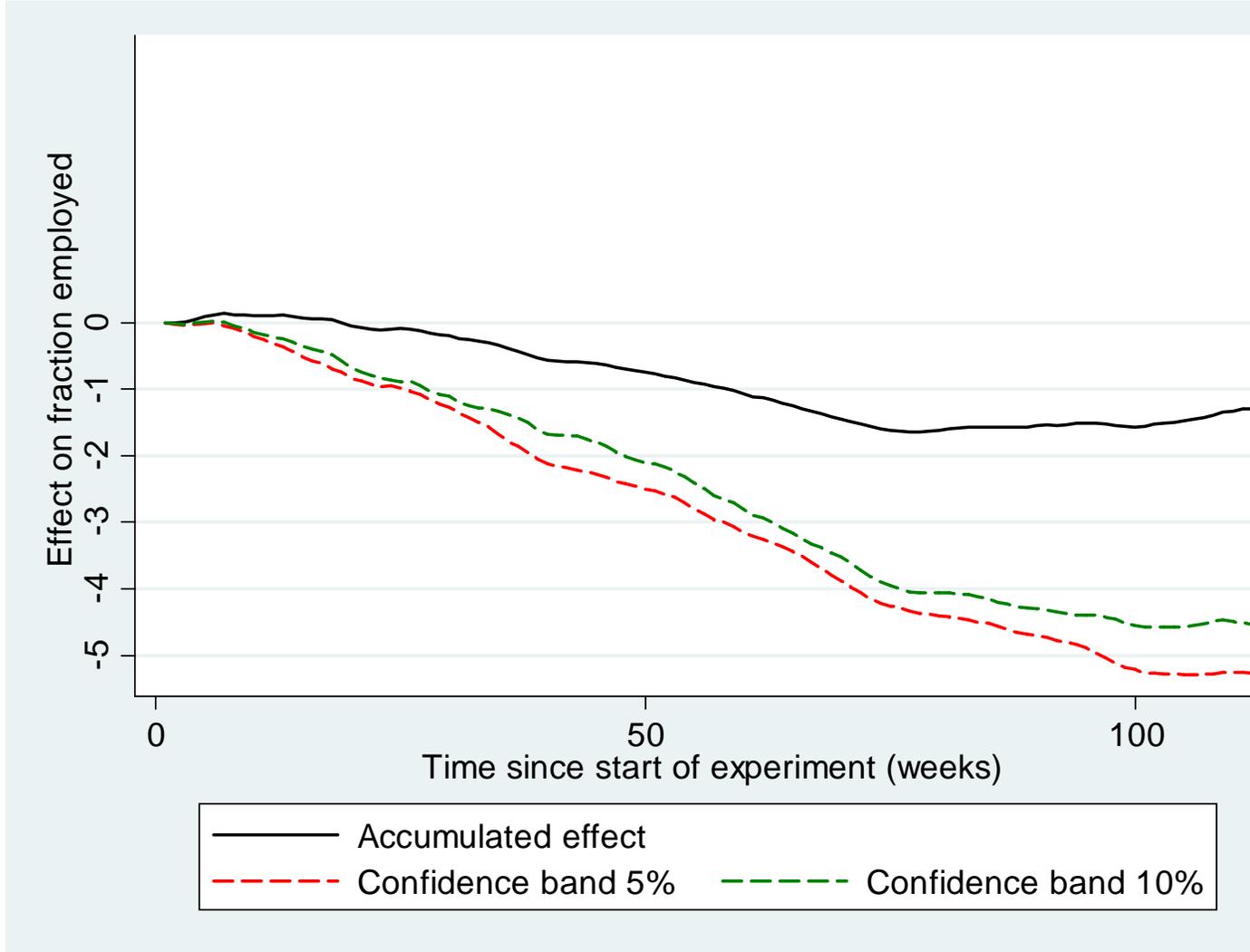
Figure 4 shows the effects of the experiment B, the individual meetings. Both women and men benefit greatly from participating in individual meetings. Two years after entry into unemployment, the treatment group has accumulated 5 weeks more in employment than the control group. considering that the total employment rate of the control group

over the two-year period is slightly below 50%, this corresponds to more than a 10% increase in the employment rate. This is a very large effect. The results from this experiment thus confirm the patterns found in the literature, which found positive effects of intensified counseling and monitoring for the unemployed. Compared to the results from the experiment A with group meetings, the effect is much larger when individual meetings are used. Naturally, the costs of having individual meetings is also larger. In the cost-benefit analysis later in this paper, we show that the extra costs of having individual meetings are strongly dominated by the positive effects on employment rates.

Once again, we observe that the effect starts accumulating earlier for women than for men. In fact, the observed pattern suggests that for women, we both find effects on job finding rates as well as on job duration, whereas for men, the effect would appear to arise mainly from more stable employment.

Figure 5: The employment effect of experiment C (early activation)

Women

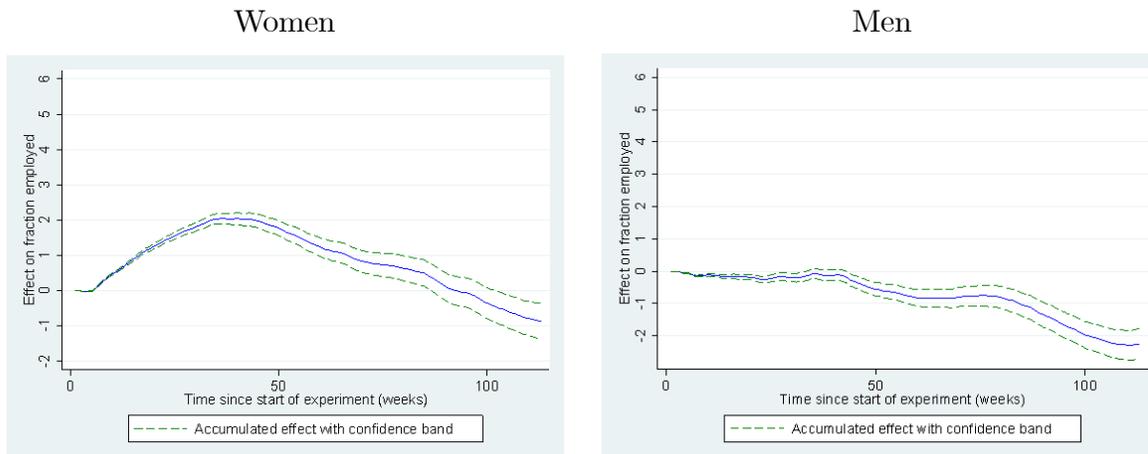


Note: The figure shows the accumulated difference in the employment rate between the treatment and control group. The one-sided confidence bands are obtained by bootstrapping.

Figure 5 shows the effect of early activation (after 13 weeks of unemployment). The difference between women and men is remarkable. Women do not react at all to the threat of activation, and if anything their transition rate to employment is reduced, presumably due to lock-in effects combined with very low post-programme effects. For men, the effect starts accumulating already after 9 weeks of unemployment, suggesting that at least a part of the observed effect is a threat effect. However, one would then have expected also to observe higher rates of return to unemployment, such that an initial positive effect would tend to decline over time. However, we find the opposite, suggesting that threat effects not only scare male workers out of unemployment but keeps them from returning.

The finding that men but not women react to the threat of activation is consistent with the results by Rosholm & Svarer (2008).

Figure 6: The employment effect of experiment D (early activation + group meetings)

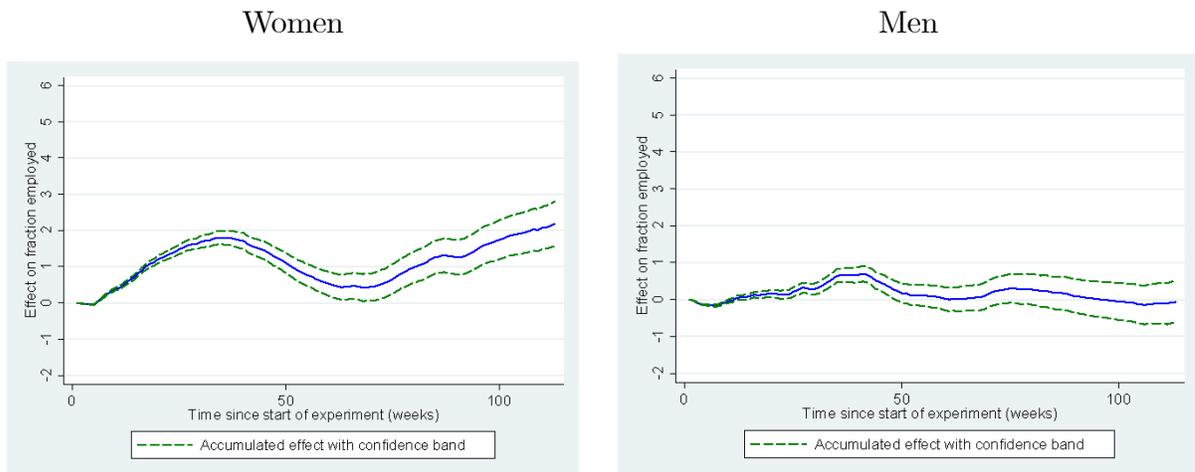


Note: The figure shows the accumulated difference in the employment rate between the treatment and control group. The one-sided confidence bands are obtained by bootstrapping.

Figure 6 shows the effect of combining group meetings with early activation. Consistent with the experiment with only group meetings, we observe a positive effect for women initially. However, when combined with early activation, the effect dies out after a year and after two years there is no difference in accumulated employment between the treatment and the control groups. For men the effect is close to zero the first year, whereafter the difference between employment in the two groups favors the control group.

As mentioned earlier, the treatment group in one of the two job centres in Southern Denmark did not receive early activation, and in fact, there is anecdotal evidence that they did not receive any attention at all due to personnel problems in the job centre. In Figure 7 we therefore show the results from the job centre that did follow the guidelines of the experiment.

Figure 7: The employment effect of experiment D (early activation and collective meetings) in the job centre that complied



Note: The figure shows the accumulated difference in the employment rate between the treatment and control group. The one-sided confidence bands are obtained by bootstrapping.

The results from the compliant job centre are more positive in terms of employment. Now, the effect for women is strictly positive and for men the effect is zero. It is interesting that whereas there was a positive effect for men of early activation in isolation, this is no longer the case when combined with group meetings.

6 Duration analysis

- text soon to come!

	MEN		WOMEN	
	Coeff	Std.err	Coeff	Std.err
<i>Experiment A</i>				
U-E, 1-16	-0,066	0,127	-0,004	0,136
U-E, 17+	-0,016	0,117	0,080	0,122
E-U, 1-16	-0,073	0,380	0,529	0,490
E-U, 17+	-0,318	0,130	0,029	0,232
<i>Experiment B</i>				
U-E, 1-16	0,017	0,108	<i>0,192</i>	0,116
U-E, 17+	0,050	0,104	0,090	0,129
E-U, 1-16	-0,082	0,404	-0,424	0,494
E-U, 17+	-0,283	0,136	-0,044	0,177
<i>Experiment C</i>				
U-E, 1-16	0,143	0,103	0,036	0,109
U-E, 17+	-0,039	0,095	-0,224	0,112
E-U, 1-16	-0,084	0,409	0,047	0,407
E-U, 17+	-0,140	0,134	0,000	0,163
<i>Experiment D</i>				
U-E, 1-16	-0,029	0,140	<i>0,217</i>	0,125
U-E, 17+	-0,029	0,139	-0,040	0,139
E-U, 1-16	-0,435	0,403	-0,600	0,455
E-U, 17+	-0,111	0,151	0,129	0,182

7 Cost-benefit analysis

In this section we confront the costs of running the four experiments with the gains obtained by increasing employment rates. In addition, we adjust for the marginal costs of providing public funding via taxation. The CBA calculates the net gains accumulating over the first two years after entry into the experiment. The costs are split into costs of income transfers and costs of operating the active labour market policy (called programme costs). The costs of income transfers are calculated based on average weekly per individual costs of a given income transfer. Programme costs are provided as average costs of operating activation programmes of a given type (provided by the National Labour Market Authority), individual meetings last between 15 and 30 minutes (information on average

meeting duration is provided by the participating job centres), and group meetings last 2-3 hours and has 6-30 participants per meeting). The price of a meeting per worker is then calculated by multiplying its duration with the hourly costs of a case worker and dividing by the number of participants. Public income transfers represent only a reallocation of income, hence here we only include the marginal costs of providing public funds via taxation, assumed to be 20% (this is the official rate used for cost-benefit calculations by the Danish government). Costs of operating the active labour market policy, however, are a true cost and as such is multiplied by 1.2 in order to include also here the marginal costs of public funds. On the benefits side, we assume that employed workers are able to obtain work at approximately the average weekly wage rate for previously unemployed workers (approximately €40,200 per year divided by 46 working weeks). We assume further that the wage is equal to the marginal cost of production, such that all the gain from increased production accrue to the workers. The results of the cost-benefit analyses are shown in Table 3.

Table 3: Cost-benefit analysis

	Expenses	Corrected for MCPF
Northern Jutland - Experiment A		
Difference, public transfers, control-treatment group	1486	297
Difference, programme costs, control-treatment group	-237	-284
Difference, expences, control-treatment group	1249	13
Accumulated gain in employment, weeks		1,52
Value of increased production		1329
Net resultat of CBA		1342
Copenhagen and Sealand -Experiment B		
Difference, public transfers, control-treatment group	1569	314
Difference, programme costs, control-treatment group	41	49
Difference, expences, control-treatment group	1610	363
Accumulated gain in employment, weeks		4,99
Value of increased production		4362
Net resultat of CBA		4725
Mid Jutland - Experiment C		
Difference, public transfers, control-treatment group	412	82
Difference, programme costs, control-treatment group	-295	-354
Difference, expences, control-treatment group	117	-272
Accumulated gain in employment, weeks		1,75
Value of increased production		1530
Net resultat of CBA		1258
Southern Denmark - Experiment D		
Difference, public transfers, control-treatment group	108	22
Difference, programme costs, control-treatment group	-366	-440
Difference, expences, control-treatment group	-258	-418
Accumulated gain in employment, weeks		-1,37
Value of increased production		-1198
Net resultat of CBA		-1616

Table 3 shows that individual meetings with case workers are not only the most effective instrument in terms of increasing employment, they also clearly lead to the largest net gains to society. The surplus per unemployed is around €4725. Group meetings - although their impact was more modest - also gave a surplus in the cost benefit analysis, since the costs were fairly low. The same is true for early activation, where the positive effects found for men were sufficient to outweigh to slightly negative effects for women and the costs of running the programmes. For the (imperfectly conducted) experiment with group meetings as well as early activation, the cost benefit analysis reveals a deficit

of about €1600.

8 Conclusion

We have analysed the effects of four randomised experiments in active labour market policy conducted in Denmark in 2008. The experiments entailed different combinations of early and intensive treatment in terms of meetings and activation. A previous experiment showed that the combination on meetings, job search courses, and early activation reduced the length of unemployment spells and was economically attractive (see Graversen & van Ours, 2008, and Rosholm, 2008). The purpose of the set of experiments analysed in the present study was to test which of the instruments worked better.

The evidence presented in this paper is compelling; fortnightly individual meetings between newly unemployed workers and case workers can increase employment rates over the next two years by 10% corresponding to 5 weeks. We find it quite remarkable that having to attend 6-7 meetings during the first 13 weeks of the unemployment spell can have such a large effect on subsequent employment rates. Nevertheless, the positive effect of individual meeting for newly unemployed workers is highly consistent with the results found in the large literature on the effects of meetings between case workers and unemployed.

The accumulated effect is of a similar size for men and women two years after the beginning of the unemployment spell, but it starts materialising much earlier for women than for men. The same is the case for group meetings, where the effects are more modest, leading to about 2 extra weeks of employment over a 2-year period. The gender difference with the delayed effect for men relative to women is interesting and suggests that for women there is both an effect on the outflow from unemployment and on subsequent employment duration, while for men the latter is the more likely source of the effect. A couple of potential explanations for these differences are that

- most case workers are female, and unemployed women may receive better job search assistance from them than men (cf. Behncke *et al.*, 2010b),
- women and men work in different labour markets, with men being more likely to work in the private sector and women in the public sector. Again, female case workers may have better knowledge of public sector vacancies than they have of

vacancies in the private sector.³

We have no information at present allowing us to test these hypotheses.

The threat of early activation also has a large positive effect for men, while for women there was actually a negative effect of early activation. This evidence on threat effects of early activation for men but not for women correspond closely to results found by Rosholm & Svarer (2008), who found such threat effects for men but not for women. A couple of potential explanations for these differences are that

- unemployed men work in the untaxed sector, and therefore when facing mandatory activation, they prefer ordinary employment
- men dislike activation for other reasons, while women value the social network provided.

Again, we have no additional information allowing us to test these different hypotheses, but the behavioural gender differences documented here certainly warrant further future research on these experiments and on the differential impact of active labour market policies on men and women.

Finally, it should be mentioned that the present study does not in any way take into account general equilibrium effects or substitution effects arising from the experiment. This is also left for future study.

We believe that the results obtained in this paper shed some light on the reason for the Danish success in having obtained a low structural unemployment rate - it is currently estimated to be around 4% as compared to 9-9.5% in 1993. Since then, active labour market policies have been introduced, and continuously tightened during the 1990s and early 2000s. Especially, meetings intensities have increased, early activation has been introduced (mandatory activation be pushed forward from 4 years to 9 month unemployment), and noncompliance with the rules have led to sanctions. Moreover, we also believe that the result points to possible improvements of the policy conducted, with even more focus on early individual meetings, which are much cheaper than full time programme participation.

³An additional explanation suggested by a group of female case workers when these results were presented for them was that men are inherently more proud/stubborn, and that advice therefore takes longer to 'sink in'.

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