Early activation and employment promotion

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The European Network of Public Employment Services was created following a Decision of the European Parliament and Council in June 2014[1]. Its objective is to reinforce PES capacity, effectiveness and efficiency. This activity has been developed within the work programme of the European PES Network. For further information: http://ec.europa.eu/social/PESNetwork.

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Executive Summary

The European Pillar of Social Rights sets out a general right to timely and tailor-made assistance to improve employment prospects. Public Employment Services need help in finding effective ways to provide such assistance and in setting up adequate measures to prevent long-term unemployment. In this study, we investigate the rationale for providing services and interventions to jobseekers which most adequately address their potential employment barriers to find a job and doing this as early as possible. More specifically, we scrutinize the effectiveness and efficiency of an intensified support package which can be composed of (a) access to services and measures prior to registering as unemployed for those at risk of job-loss due to group dismissals; (b) intensive counselling in the early stages of an unemployment spell; and (c) referral to training programmes and supportive active measures shortly after registering as unemployed.

After discussing how these different interventions could contribute to shortening the time spent out of work, we review close to thirty academic papers from eleven European countries evaluating the effectiveness and efficiency of these programmes. While the strength of evidence for these interventions varies considerably, our findings are the following: Services and measures for those affected by group dismissals exhibit a large variation in design and results, and only some of those addressed to persons with a rather long labour market experience and tenure might be effective. However, there is no evidence that they are also efficient. Early intensive (face-to-face) meetings between the unemployed person and her (personal) job counsellor is effective for speeding up jobseekers' transition to work. While these meetings have both a monitoring and a counselling function, above a certain minimal level of monitoring, it seems that personalized job counselling considerably increases the efficacy of job search and not only helps unemployed find jobs quicker, but also prevents the recurrence of unemployment. This early intensive meeting schedule is relatively cheap, and hence has been found to be efficient. Finally, referrals to active measures at the early stages of an unemployment spell seems to be no more effective at raising the time spent in employment than later assignments. While some unemployed persons quickly transit to jobs in order to avoid participation in activation programmes, those who actually participate early in their unemployment spell generally tend to 'get locked in' programmes for a longer period than those who were assigned later.

Based on our interpretation of the literature, we provide a suggestion for a 'preferred bundle' of services, which entails intensive counselling (and monitoring) meetings between the jobseekers and her individual job counsellor in the first six months of the unemployment spell. Next, we assess the relative costs and gains of providing this 'preferred bundle' of early interventions through case studies conducted for six Member States. These case studies cover different PES in terms of institutional setup, level of maturity and current approach to early activation.

In all six case study countries (PES), we are investigating the optimal allocation of jobseekers to the early intervention package that maximises short-term benefits to the public budget in terms of income and VAT tax revenues as well as savings from unemployment benefit payments and ALMP participation through a quicker transition from unemployment to employment. In this endeavour, we differentiate between high- and low-skilled jobseekers. We find that such an early intervention package yields the highest short-term benefits to the public budget in countries that already "do better" in the sense that the PES is more mature, i.e. the status quo is close to the 'preferred bundle', expected wages, tax rates and unemployment benefits are high, and, ALMP

participation is expensive. We find that even in these countries, such as in Estonia and Denmark, the optimal allocation of jobseekers to the intervention does not exceed 60%.

In the second group of PES, Germany and Belgium (Flanders), although the intervention is assumed to be more effective for low-skilled jobseekers, it turns out to be more efficient for high-skilled jobseekers. In these two countries the wage gap between high-skilled and low-skilled jobseekers is high, while jobseekers' baseline probability to find a job is either low for both types of jobseekers (Flanders), or, quite low for low-skilled jobseekers (Germany); thus, early intervention is more beneficial for the high-skilled. In the third group of countries (Portugal and Slovakia), introducing the 'preferred bundle' would not provide higher short-term budgetary benefits than its costs because of the low level of wages, low rates of transition to employment, and low-level unemployment benefits. As our highly stylized model is based on very limited information and captures short-term budgetary gains only, these results obviously do not mean that such intervention could not be efficient on the long run in these two countries.

It is important to emphasize that our scenario analysis suffers from some serious limitations. First, there is no evidence in the literature on the effectiveness of such interventions in the 6 case study countries, so we had to build the analysis on impact estimates coming from other countries having different labour markets, institutional backgrounds, etc. Second, the number of relevant impact evaluation studies is limited. Furthermore, they do not investigate exactly the same interventions that we examine here, and most papers do not differentiate the effects of the interventions between high-skilled and low-skilled jobseekers. Third, we face serious barriers when collecting country-level data, and thus, in most cases we had to use very rough estimates coming from publicly available aggregate data sources to predict the potential benefits and costs of the intervention. Fourth, our stylized model captures short-term benefits only. However, although there is hardly any empirical literature on the long-term effects of early interventions, they might have long-term effects, and also non-direct, not-ready-to-be-monetized effects that are realized outside the labour market (i.e., health or educational effects). Finally, it is vital to underline that any conclusions drawn about the relative efficiency of ALMP's versus early activation based on this study must be fundamentally wrong. This study does not examine neither the relative effectiveness nor the relative efficiency of early intervention programmes versus ALMP's.

1 Introduction[2]

In the aftermath of the recent economic crisis, large-scale long-term unemployment remains a major challenge for Public Employment Services in Europe. One way to tackle this issue is to find effective ways in which the onset of a prolonged spell of joblessness can be prevented. In light of this, the European Pillar of Social Rights as adopted on 26 April 2017[3] sets out a general right to timely and tailor-made assistance to improve employment or self-employment prospects, including the right to receive support for job search, training and re-qualification. For the unemployed, the Pillar sets out the right to personalised, continuous and consistent support as well the right to adequate support from public employment services.

The objective of this study is to explore the potential gains of 'timely and tailor-made support to improve employment prospects (including preventive interventions)'. In other words, we investigate the rationale for providing services and interventions to jobseekers which most adequately address their potential employment barriers to find a job and doing this as early as possible. More specifically, we scrutinize the effectiveness and cost efficiency of a potential intensified support package which can be composed of (a) access to services and measures prior to registering as unemployed for those at risk of job-loss; (b) intensive counselling in the early stages of an unemployment spell; and (c) referral to training programmes and supportive active measures shortly after registering as unemployed.

It is important to emphasize that an assessment of the employment potential of all jobseekers to be done as early as possible is a pre-requisite for tailor-made assistance. However, determining the most effective ways of conducting such an assessment[4] and appraising the efficiency-enhancing potential its introduction is beyond the scope of this study. Furthermore, while the generosity and design of unemployment insurance (and welfare) benefits, as well as the behavioural conditions attached are important determinants of job search efforts, this report does not address the issue of 'optimal unemployment benefit design'.[5]

We proceed in the following steps. First, we provide a brief overview of the potential mechanisms through which providing each of the above services and measures to jobseekers as early as possible might speed up re-integration rates. Second, we review the literature that uses counterfactual evaluation methods in order to assess 'what works for whom' in the early stages of the job search process. As it will become transparent, the strength of the evidence base for different types of interventions varies considerably, and the available evaluation studies aimed at identifying the causal effects of early interventions rarely assess cost-efficiency. Nevertheless, based on our interpretation of the literature, we provide a preliminary suggestion for a 'preferred bundle' of services.

Next, we assess the costs and gains of providing the 'preferred bundle' of early interventions through case studies conducted for six Member States. The selection of Belgium (Flanders), Germany, Denmark, Estonia, Portugal and Estonia for the case studies covers diverse PES in terms of the current level of maturity and early activation. We first briefly examine the approach to, and tools of 'timely and tailor-made support' in

[2] The authors are grateful for the useful comments and suggestions of Ágota Scharle to an earlier version of this study; and, to Aidana Zhalelova for her great research assistance work.
[3] https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights_en
[4] For a more detailed study on this issue, see European Commission (2014).
[5] For an overview, see for instance Tatsiramos – van Ours (2014).

these six PES. Finally, we assess the costs and gains of providing the 'preferred bundle' of early interventions in these six countries. This is done by using a highly stylized scenario analysis, which helps us to calculate the potential short-term monetary returns to alternative setups, where the intensified services can cover alternative proportions of different groups of jobseekers. Given that it is anything but trivial to extrapolate the findings from a given institutional context to other countries, and the difficulties encountered during data collection, we can view our results as preliminary indications of what factors determine the potential gains from introducing intensified early services.

2 Literature review of impact evaluations on early labour market activation interventions

2.1 Introduction

This section reviews the available empirical evidence on the impact of early labour market activation interventions, focusing mostly on the experience of European Union Member States (MS). Throughout this paper, and especially for the sake of the cost-benefit scenarios that will follow, we define early activation interventions as:

1) labour market interventions given to employees at risk of unemployment (UE) due to collective (group) dismissals while they are still employed[6] (referred as ***pre-UE interventions*** in the rest of the paper), and
2) labour market services given to registered unemployed jobseekers early in their unemployment period, not later than in the first 6 months of their unemployment (referred as ***early activation services*** in the rest of the paper).

In the first case, we use the term *interventions* because as this literature review will reveal, pre-UE interventions combine PES-supplied services with traditional active labour market policy (ALMP) measures. In the second case, we use the term labour market *services* (and purposefully not *measures*), because as we learnt, although there are exemptions, the usual sequence of activation interventions schedules services first and allocates ALMP measures in later stages of unemployment (usually after 6 months spent in unemployment, and thus, those would not be early interventions). By services, we mean interventions usually (but not necessarily exclusively) supplied by PES offices, such as caseworker meetings, job search assistance, CV clinic, counselling, etc. ALMP measures, on the other hand, include interventions like vocational or professional training, wage subsidy, or direct job creation on the secondary labour market.

The goal of this literature review is to summarize the empirical evidence on the employment effects, and also costs and benefits, of pre-UE interventions and early activation services, to review the evidence on the effects of the timing of labour market interventions in general, to map the good practices and to come up with an 'optimal package' of pre-UE interventions and early activation services. By 'optimal', we mean the bundle of early activation services that potentially could be the most effective in increasing the probability of employment. When identifying the optimal package, we concentrate on the elements of national policies that might be affected by EU-level recommendations. For example, UI benefits may act as a strong disincentive to job search in the early stages of unemployment and thus behavioural conditions can be a crucial element in the activation efforts of the PES. In spite of this, we do not consider UI entitlement policies in this study because UI entitlements are rather national policy. Additionally, this literature review aims to identify the necessary parameters to use in our cost-benefit model of early interventions. Whenever it is possible, i.e. relevant literature is available, we discuss pre-UE interventions and early activation services separately.

After a selection of relevant studies, we reviewed 27 articles in depth evaluating active services and measures from eleven European countries, of which six papers used data from Denmark and from Germany, four from Sweden, three for Austria and from France,

[6] Some PES provide such services to employees at risk of individual dismissal, or, to workers in general who are looking for better employment opportunities than the one they have at the moment. However, due to the lack of empirical evidence on the impacts of these services, in the cost-benefit scenarios we only consider group dismissals. In spite of this, in the literature review section, we review papers covering individual dismissals as well.

two from the Netherlands, while one paper each came from Belgium, Estonia, Hungary, the United Kingdom and Switzerland.

2.2 An overview of the results on early activation

The evidence presented below refer to several options for reinforcing timely and tailor-made support. These can be summarized along the following dimensions:

- Services and measures prior to registration as unemployed in the period between having received of collective dismissal and the end of the employment relationship
- Intensified services for registered unemployed in the first stage of their unemployment spell (within the first 6 months)
- Ensuring an offer of access to active measures already in the first stage of an unemployment spell
- Defining preferred sequences of measures (and services) for during the first year of an unemployed person's registration

The most important findings and conclusions for these options are summarised in Table 1 which includes a general assessment of (a) the effectiveness and (b) the cost-benefit ratio. To present an overview on the cost-effectiveness estimates that have been determined in different formats in the original evaluation studies, a stylised comparison has been used. Interventions that can be deemed highly cost effective (i.e. those in which gains to the public budget are likely to be more than double the costs of the intervention) are denoted with "++", while interventions where gains are likely to outweigh costs are represented with "+". The opposite holds for "-" and "--". Lastly, "?" denotes missing evidence. This stylized comparison is necessary since the different evaluation studies used different approaches to represent the cost-effectiveness of the interventions.

Furthermore, the table indicates that the assessment of different interventions is based on the available evidence which is quite scarce for some of the options. In particular, interventions for which only one or two studies are available, or where these studies pertain to only one country, the evidence base is marked as "weak". Interventions with a relatively rich evidence base (more than two studies from at least two countries, preferably with randomized control trials) are denoted with "strong".

Finally, an overarching consideration is that due to budgetary considerations, an 'optimal targeting' of these different services and measures should be ensured. While we do not explicitly address how this is to be carried out, we will briefly discuss, wherever possible, if the effectiveness and cost-benefit ratio of the option considered differ across disadvantaged (low-skill) and non-disadvantaged (medium and high skilled) groups.

Table 1. The evidence on the effectiveness and cost efficiency of different early interventions

Intervention	Evidence Base	Effectiveness	Cost-to-gains ratio
Active measures for those affected by collective dismissal prior to registration as unemployed	weak	+	?
Intensified early support, individual job counselling for non-disadvantaged	strong	++	++
Intensified early support, individual job counselling for disadvantaged	strong	++	+

Early group job counselling, non-disadvantaged	medium	+	0
Early group job counselling, disadvantaged	medium	+	+
Intensified early activation (participation in active measures)	strong	+	0
Early participation in training programmes	medium	+/0	?

Our reading of the literature is the following.

In terms of services and measures for those affected by collective dismissals, there are (i) large variations across studies in what the 'package' evaluated contains; (ii) only some versions and elements of these packages seem to be effective and only for a subset of workers. There are two further issues. First, some of these programmes are likely to be expensive, given that they offer large monetary incentives for workers to join them and they offer relatively costly training measures. While these programmes are to some extent effective at improving employment rates, we know very little about their cost effectiveness. Second, (self-)selection of workers into these programmes is not well understood, and this limits us to achieve reliable conclusions about the effective targeting of measures.

As for early access to active measures, the evidence on effectiveness remains mixed as to what extent enrolling in a programme during the first 6 months of an unemployment spell is more beneficial than joining a programme later. Early (mandatory) assignment to active measures seems to speed up job finding rates to some extent because jobseekers do not value these programmes and would increase their search effort rather than enrolling in these programmes. However, this compulsion via early activation does not seem to be conducive to earlier re-employment in regions and at times when the labour market is weak. The optimal sequencing of services and measures is only in its nascent stage, hence no firm conclusions can be reached.

The only type early intervention which has been robustly shown to be effective for increasing unemployed persons' employment rates is group job search training and early, intensive (face-to-face) meetings between the unemployed person and her (personal) job counsellor.

2.3 Potential benefits of early labour market activation interventions

There has been a long policy discussion about the optimal timing of labour market interventions, including both activation services and ALMPs in the last two decades. There is a trade-off between providing labour market interventions 'early' vs. 'late'. Automatically provided early interventions may be costly if they are provided to all new unemployed jobseekers. Furthermore, they may generate deadweight loss as they would be given also to those who would have found a job anyway (Weber and Hofer, 2004). On the other hand, if interventions are provided late, they might not be able to prevent some jobseekers from slipping into long-term unemployment (LTU) that would radically reduce further chances of finding employment. In a theoretical model of labour market intervention provision, there should be an "optimal" allocation, in terms of both the types of interventions matched to the individual needs of jobseekers, and in terms of their timing as well. Conditional on a well-established jobseeker profiling system, it might be possible to 1) assess the likelihood of becoming long-term unemployed for each jobseeker entering UE, and based on this estimated probability, 2) schedule labour market activation services and measures in a way that maximizes the probability of

finding a job and minimizes the costs of interventions. Although the question of jobseeker profiling is a vital part of the problem, this study focuses exclusively on the second problem, the timing of labour market intervention allocation.

We start with a short overview on the types of early labour market intervention evaluated in the literature, along with discussing their potential impact mechanisms.

2.3.1 Pre-UE interventions for workers at risk of unemployment

The main rationale behind providing labour market interventions to those at risk of UE who are still employed may be helping them to transition smoothly from their existing job to another, without entering registered UE and taking up unemployment benefits. This might be especially important in the case of group dismissals when a large number of similarly employable workers with similar labour market characteristics (i.e., education, experience) would otherwise introduce a labour supply shock on the local labour market of their neighbourhoods.

The impact mechanisms of pre-UE interventions are the same as those of classic ALMP measures given to unemployed jobseekers. *Training* and *grant/financial support for training* (i.e., training vouchers) are designed to increase human capital and might also help the matching procedure by adjusting the skill and professions of redundant employees to the actual needs of the labour market. *Grants* (i.e., childcare support) *paid to redundant workers having barriers to participate* in training or to get involved in extensive job search are expected to decrease the costs of the training and job search process. *Job search assistance* helps the matching procedure, and develops the job searching skills and motivation of dismissed workers. *Wage subsidies and employment grants for employing and training redundant workers* help to compensate employers for the presumed or actual lower productivity of dismissed workers and for the higher fixed costs of their employment.

2.3.2 Early activation services

Activation services are usually labelled as cost-effective interventions in the sense that they do not require as many resources in terms of time and finances as classic ALMP measures; however, there is ample evidence that they are still effective tools for improving the labour market success of jobseekers. *Individual and group caseworker meetings* may have several (potentially overlapping) functions and goals. Meetings *to evaluate the labour market potential/human capital strengths and weaknesses of jobseekers and develop an individual plan* are designed to help the matching procedure between jobseekers and employers. A clear view of one's own labour market potential may help to set realistic expectations in terms of positions and expected wages and thus may speed up the job search process. Meetings providing *job search assistance* aim at developing the job search skills and technologies of jobseekers and at increasing their motivation. Meetings *to offer explicit employment possibilities/vacancies* may decrease the costs of job search to basically zero. Meetings *to monitor the job search efforts of jobseekers* and employing sanctions if those are not satisfactory are set to ensure that the job search behaviour of jobseekers reach some acceptable level.

The empirical literature usually groups caseworker meetings in two main categories. *Monitoring meetings*, as their name suggests, have the only purpose of job search monitoring and applying sanctions if necessary, while *counselling meetings* may have all other functions as mentioned in the earlier paragraph. In practice, however, it is hard to separate these two main functions. Counselling meetings inherently would serve as monitoring meetings as well because jobseekers may implicitly feel that they are expected to behave a certain way even if their job search efforts are not to be explicitly reported. Monitoring meetings, on the other hand, are more likely to stand alone, if no

other services are attached. Independently from the actual declared goal of a meeting, more frequent interactions between jobseekers and caseworkers always carry the potential for monitoring job search compliance and the threat of potential sanctions.

Early activation wall is a newly introduced expression in the literature (Black et al., 2003). This intervention consists of allocating jobseekers relatively early in their unemployment spell to intensive, time-consuming ALMP activation measures. As we will go into more detail in the next section, an early activation wall is supposed to induce jobseekers to find a job quicker due to the *'threat effect'* of participating in ALMP measures otherwise. Thus, in this case, besides the actual ALMP measure that may increase the chance of finding a job ex-post, an ex-ante effect may also occur if jobseekers increased their job search efforts in order to avoid a more intensive unemployment care.

2.4 The empirical evidence of early labour market activation interventions

Although there are several reviews and meta-analyses of labour market services and measures in the literature, none of them targets interventions based on how 'early' or 'late' they are given within the first year of unemployment. In terms of the timing of entry to programs, general review papers only look at heterogeneous effects of labour market interventions on the long-term unemployed who enter these programmes after the first year of unemployment.[7] Furthermore, although there are a handful of papers reviewing the effects of labour market programs explicitly targeting the long-term unemployed, none of these reviews look at programme entry within the first year of unemployment.[8] This section provides a detailed review on the academic papers on early labour market interventions.

2.4.1 The effects of pre-UE activation interventions

Group lay-offs are usually caused by unfavourable economic conditions or industry restructuring and not by workers' productivity. In spite of this, displaced workers on average stay in UE for longer periods than workers who enter unemployment because of other reasons. Furthermore, the length of their subsequent unemployment is proportional to their tenure before the dismissal due to their highly occupation (or industry) specific skills (Fallick, 1996). Thus, the challenge for measures targeting displaced workers is helping them to find a new opportunity (or in fact, industry or occupation) to work, and increasing their probability to find a stable, long-term job.

The literature on the evaluation of measures for displaced workers comes to the conclusion that job search assistance and general or vocational training together are able to increase the probability of finding stable jobs. Cavaco et al. (2010) examines the effects of a training programme for displaced workers in France in the 1990's. The programme offered a 6-month voluntary care right after the dismissal including training (computer training, languages, etc.) and job search assistance to workers with more than 2 years' seniority involved in a group dismissal. The paper uses a quasi-experimental identification strategy based on statistical matching, and looks at the impact of programme participation on the probability of finding both employment and long-term employment. The authors find that the programme increased the proportion of time spent in employment by 6.5 percentage points in the second year after entry to the programme, and by 5.7 percentage points in the third year. Looking at impacts on

[7] To name a few of the most recent review papers, Card, Kluve and Weber (2015), Card, Kluve and Weber (2010), Kluve (2010) and Martin (2014).
[8] Examples include Meager and Evans (1997)

permanent employment secured by a long-term contract, the estimated effects are in a similar range.

Similarly to Cavaco et al. (2010), Winter-Ebner (2013) also finds a positive impact on a program combining job search assistance, occupational re-orientation and professional training in Austria, during the large-scale restructuring of the steel industry in the 1980's. They use an instrumental variable method to compare the employment outcomes of voluntary programme participants and control individuals. He finds that the programme increased the number of days spent in employment by a yearly 45-80 days, depending on the model, in the subsequent 5 years after completing the programme. However, a potential interpretation problem may arise from the fact that only 12% of eligible displaced workers choose to participate in the programme. Theoretically, such a participation decision should depend on the present cost (time, effort, forgone alternative earnings) and expected future benefits (future wages) of programme participation. In the programme evaluated by Cavaco et al. (2010), 80% of eligible workers joined the programme, because that programme offered at least 70% of the previous wage as allowance. [9] The programme evaluated by Winter-Ebner (2013) on the one hand substantially extended unemployment insurance benefit duration and offered a small training allowance for the duration of participation in the programme, on the other hand the programme was close to full-time (entailed 35 hours of activities per week). As a result, it seems that workers with relatively poor labour market prospects joined the programme. Furthermore, due to the complicated financing structure of the programme[10], it is clear that this kind of approach can only work under specific arrangements.[11]

The results of Fertig and Haegele (2013)[12] paint a less positive picture of two inter-related programmes in Germany, being involved in a 'transfer-company' and receiving vocational training during the dismissal period. The first entails being registered in a company (whose expenses are largely provided for by the PES) provides work opportunities for the persons affected by mass layoffs, as well as services which improve the re-integration possibilities of jobseekers. Being involved in a 'transfer-company' – after a lock-in period of 4 months – led to slightly higher, albeit not statistically significant probability to be employment.[13] The results are somewhat more positive for those receiving training during the dismissal period, in the sense that at least for persons with a long seniority (ten or more years) the programme had a positive effect on re-employment one to 1.5 years after enrolment.

In Estonia, a small-scale programme exists to provide services to those affected by collective layoffs, which comprises several elements: information sessions and job search training to (former) employees, as well as services to inform potential employers (from the same county) and services to find direct job referrals.[14] Vörk-Leetma (2007) evaluated the short-term effect of this measure on the probability to receive unemployment benefits and on earnings, and found rather different effects across the

[9] Note that this allowance was significantly higher than unemployment insurance benefits.
[10] Workers at firms who were members of the Steel foundation payed 0,75% of their gross wages (as an insurance) into the accounts of the Foundation, while laid-off workers deposited 50% of their severance pay. The firms and the local governement also contributed, so approximately 28% of the finances came from local government, 45% from the firms, 25% from the wage restraint of the remaining workers and only 2-3% from the trainees themselves.
[11] Note that a further condition was that the firm does not completely shut down, otherwise, there would be no-one to finance the programme.
[12] This paper used a very rich administrative dataset, and a matching methodology to evaluate the net effect of the programmes.
[13] The other effect of the programme is that it leads to lower rates of labour market withdrawal (inactivity).
[14] Both the participation of the firms and of workers is voluntary.

types of services. On the one hand, services that were only addressed to employees (information sessions and job search training) had no positive effect on earnings or off-flows from benefits. On the other hand, services involving employers decreased the probability to be on benefits by about one-fifths by the fourth to fifth month after the participation in the services and slightly increased earnings.[15]

2.4.2 The effects of caseworker meetings and job search counselling

The literature shows that caseworker meetings in general do have a positive effect on the probability of finding a job; however, the size and the significance of the effects differ. Petersen et al (2012)[16] look at the evidence emerging from 37 papers that estimated the effects of caseworker meetings on labour market outcomes. According to their review, all papers found either positive and significant effects (30), or, positive but insignificant effects (7) of caseworker meeting on labour market outcomes. Services in these studies include monitoring meetings, counselling meetings, job offers, and sanctions given in case of unsatisfactory job search efforts.

Schiprowski (2017) looks at the effects of the quantity and quality of early individual caseworker meetings on the length of unemployment in Switzerland, by exploiting random variation coming from caseworkers' absenteeism. When a caseworker is missing from work, jobseekers originally allocated to them for that day would either be rescheduled to a later date, or re-allocated to other caseworkers who are present. In this latter case, substituting caseworkers would have more clients that day and thus they would spend less time on each jobseeker. Thus, jobseekers allocated to non-absent caseworkers have more and higher quality meetings earlier, while other jobseekers have their meetings either later or in a lower quality.[17] Exploiting this variation, she finds that jobseekers stay in unemployment 10 days longer if their caseworker was out of the office for at least 10 days in the first 3 months of their unemployment spell, and the probability of exit goes down by 2.8 percentage points. Caseworker absence in the second 3 months of unemployment has no significant effect on unemployment duration. She also finds that this effect is larger if the office-specific absent rate is higher, i.e. if missed meetings can be replaced in a smaller proportion due to capacity constraints. In addition to this, Schiprowski (2017) finds that the absence of more productive caseworkers[18] has a higher effect negative effect on the exit rate from unemployment.[19]

McVicar (2008) explored how the Jobs and Benefits reform of 1999 in Northern Ireland, which brought variation in the length of counselling and monitoring meetings with a caseworker, affected the exit rate from unemployment to employment. The new reform merged job search assistance and monitoring meetings to one location and assigned more time to meetings that took place every two weeks. Moving to a single location required refurbishment of some of the offices, which in turn suspended cancelled the monitoring meetings in these offices for, on average, eight months. Hence, the author studies the effect of (1) no monitoring of job search and (2) enhanced job search

[15] One has to interpret these results with caution, since the authors could only use a limited set of variables in regression and matching-type evaluation frameworks, and hence could only account for the non-random selection of workers into the programmes to a limited extent.
[16] Note that Petersen et al. (2012) is the more detailed IZA Discussion Paper Series version of Maibom et al. (2017).
[17] Caseworker absenteeism causes on average 1 lost meeting in the first half a year of unemployment, and about half of these lost meetings are replaced by another caseworker.
[18] Caseworker productivity is defined based on the six-month rate of exit from unemployment in case of no caseworker absence.
[19] She estimates that the absence of medium productivity caseworkers decreases the exit rate by 2.6 percentage points, the absence of low productivity caseworkers has zero effect, while the absence of high productivity caseworkers causes a 6.4-percentage point reduction in the exit rate.

assistance (and monitoring) versus the regular monitoring meetings. He found that the effect of no monitoring decreased the exit to employment by roughly 23 percent, however, the effect of enhanced job search assistance and monitoring was negligible.

Van den Berg and Van der Klaauw (2006) examines the effects of counselling and monitoring on the probability of exiting unemployment of jobseekers entitled to unemployment benefits. The small randomized experiment in the Netherlands provided face-to-face caseworker meetings to the treated group, while the employment agency communicated only in written with those in the control group about their job search efforts. They show that the intervention increased the individual transition rate of exiting unemployment to employment by 6% (i.e., reduces unemployment by about 1 week), however, this effect insignificant. Thus, the authors do not find evidence that intervention worked. Looking at the heterogeneity of the effects with respect to the intensity of the intervention, they find that the more intensive the intervention the more likely it is to have some positive effect.

It also matters what the aim of the caseworker meeting is: counselling-type meetings might be more effective than monitoring-only meetings, or just increased job-search monitoring and sanctions alone. Ashenfelter et al. (2005) look at the impacts of stricter job search monitoring in the US in 1984-85. In four random single-blind experiments, they measure the effects of two types of job search monitoring interventions. Both types happened in the first couple of weeks of unemployment, and during an initial caseworker meeting, it was explained to the unemployed persons that their job search efforts would be subject to verification.[20] For all persons in the treated group the appropriateness of their job search, in terms of companies, positions and expected salaries, was evaluated; while for a subset of the treated group, their reported job search contacts were reached by telephone by the caseworker to gain verification. Neither the baseline nor the augmented intervention were found to be effective. The interventions did not decrease total costs of unemployment benefits or the length of unemployment. The authors conclude that increased monitoring without teaching jobseekers how to search for jobs more effectively was found to have no effects.

Based on an experiment conducted in Hungary, Micklewright-Nagy (2010) also show mixed evidence for the effectiveness of job search monitoring meetings. In their setup, meeting frequency between counsellors and newly registered unemployment insurance benefit claimants was increased from once every 3 months to once every 3 weeks, and explicit monitoring of job search efforts was introduced (without a tightening of sanctions). The authors show that the treatment had a positive effect on the re-employment rate for only a subset of jobseekers, middle-aged women.

Behagel et al. (2014) compares the impact of an intensive, individual job search assistance program in a random experiment in France in 2007. While essentially the same programme was delivered by both public and private providers, we only concentrate on their findings on the publicly provided arm of the experiment which is measured against the standard service of the PES. In this 6-month programme, instead of the usual procedure of monthly caseworker meetings[21], the experimental treatment offered intensified counselling, including bi-weekly meetings with "personal advisors", and direct help in job search. The advisors not just searched for jobs for the clients, but they also applied for vacancies in their names. The main goal of the treatment was giving

[20] In this meeting on the top of the regular benefit claim procedure, 1) a detailed work and pay history of claimants was registered, and 2) their responsibility for active job search was explained as well as the sanctions (i.e., losing the benefit) for the lack thereof.
[21] Caseloads were effectively reduced from 120 jobseekers/caseworker to 40 jobseekers/advisor.

job search assistance and it did not include increased job search monitoring; however, frequent caseworker meetings may also mean the stricter enforcement of the search requirements.[22] The target group consisted of jobseekers at a high risk of long-term unemployment. The results show that increased job search counselling increased the probability of finding a job by 11 percentage points after 3 months, and by 10.2 percentage points after 6 months, with most of these were full-time jobs which lasted at least 6 months. In a 365-day window, the overall length of unemployment (and at the same time, UE benefit receipt) went down by 18 days.

The results of an experiment conducted in Denmark also shed further light on the effectiveness of meetings and job search programmes. In the treatment, newly unemployed received an early intensive job search course, thereafter they met job counsellors bi-weekly and were assigned to an activation programme after four months of unemployment.[23] The result was a large increase in job finding rates (by 20-30%), and disentangling the effect of different programme elements it seems that both job search assistance and individual meetings had a positive effect on the job finding rate, while the activation programmes had a negative effect in the short run (see Gravensen-van Ours (2008), Vikström et al. (2013)). Furthermore, analysis of longer-term outcomes leads to the conclusion that participation in the programme did not decrease re-employment wages and (slightly) increased job stability (Gravensen-van Ours (2011); Blasco-Rosholm (2011)). Blasco and Rosholm (2011) further analyse how the positive effect of counselling meetings come about. Specifically, they ask whether it is the rapid re-integration of jobseekers and this 'early' employment experience resulted in participants avoiding the potential 'stigma' of an extended unemployment spell, or the counselling leads participants to finding jobs that represent better matches due to a more effective search strategy. Their evidence points to a larger role for the improvement in jobseekers' search 'technology' and they conclude that it is not necessarily the early timing of these meetings that mattered, but rather the quality of counselling provided.

In a later experiment conducted in Denmark, newly unemployed benefit recipients were randomised into one of three early interventions: (a) during the first three months of unemployment, jobseekers had to attend a group job search meeting every week; (b) during the first three months of unemployment, jobseekers had to meet their job counsellor 6 times; and (c) after three months of unemployment, jobseekers were assigned a mandatory activation programme lasting 3 months.[24] Maiborn et al. (2017) evaluated this experiment by looking at the total time spent in employment over a 4.5 years after the start of the experiment. The authors find that group meetings tend to increase employment, but results are not statistically significant.[25] Early activation in general does not increase total time spent in employment, which is due to a lock-in effect during the first year after treatment. It is individual meetings with job counsellors which had the largest beneficial effect, with those assigned to intensive schedule having spent

[22] In this study, the authors do not try to differentiate between the effects of (explicit) counselling and (implicit) monitoring.

[23] Note that this is a significant increase in treatment intensity. Job search courses lasting 2 weeks were assigned after 5 weeks of unemployment, while in the baseline case they were used irregularly. The baseline frequency of meetings with job counsellors was once every 3 months. The activation programmes in principle lasted 3 months, and it could be a training programme, wage subsidy programme. In the baseline case, these programmes became available at earliest at the 6th month of unemployment (but typically after the 12th month of unemployment).

[24] This means empirically that over a period of one year, in treatment (a) unemployed participated on average in 7 additional group meetings compared to the control group; in treatment (b) they participated in 5 additional individual meetings, and in treatment (c) unemployed took part in an activation programme for additional 3 months compared to the control group.

[25] In general, the effect accrues only one year after the start of the experiment, which is a sign that treated persons tend to find more stable jobs, but do not exit unemployment quicker.

more than 5% longer in employment. Interestingly, the effect over the initial two years is even larger, being close to 10%. This is primarily due to women, who to leave unemployment much quicker and find equally stable jobs relative to the control group; while men tend to only slightly increase their job-finding rates, but have been successful at landing better, more long-lasting jobs than the control group.

The positive short-run effect of individual meetings on job finding is also confirmed by the study of van den Berg et al. (2014). Using Danish data, they analyse how the exit rate to employment reacts to the timing of meetings, and find that the job-finding rates increased dramatically during the week a meeting was held, and then the effect tended to taper off over the next week. However, when the next meeting was held, the job-finding rate increased again; and as a result, the effect of a string of meetings tends to be a gradual increase in the exit rate from unemployment to employment.[26]

In Germany, several pilot projects have been conducted in the past to examine the impact of intensified individual support (more frequent contacts and more in-depth counselling) by reducing caseloads.[27] In a large-scale pilot project known as "1:70", conducted between 2007 and 2010, average caseloads for counsellors serving primarily short-term unemployed were reduced to 1:40 in 14 pilot employment offices (as opposed to 1:100 in non-participating offices). Evaluation results of Hainmueller et al. (2016) suggest that the lower caseloads resulted in better outcomes. In pilot offices relative to comparable non-pilot offices, the insured unemployment rate decreased by 14 percent and the re-employment rate of UI benefit recipients increased by 9 percent. A final pilot ("Berlin Job-Offensive", conducted between 2011 and 2012) concentrated on uninsured unemployed classified as being "near to the market"[28], and reduced contact intervals from four months to once a month. An evaluation study (Fertig (2014)) examined the impact of the pilot project by comparing outcomes of clients at pilot jobcentres with matched non-pilot jobcentres and found statistically significant 10% increase in the re-employment probability in unsubsidized jobs on the primary labour market.

Van Landeghem et al. (2017) evaluate a simple and non-expensive intervention in a field experiment in the Flanders in 2014. The treatment consists of sending an invitation to a mandatory group info-session on the working of the PES and on job search (followed by a short face-to-face interview with a job counsellor), while the regular procedure schedules the same intervention after 5 months spent in unemployment. The authors argue that such an intervention might work through giving some useful job search information, or by reinforcing unemployed persons' job search effort through higher perceived social norms or higher perceived monitoring. They examine the probability of finding a job in the first 120, 150 and 180 days of unemployment. The paper finds that sending out the invitation did not increase the probability of exit from unemployment in general; however, among low-educated clients, it increased the probability of exit by 50%, and increased the number of days spent in employment by 4.7 working days in the first 120 days. The effects measured in days increase if they look at longer periods: to 6.4 working days in 150 days and to 7.7 working days in 180 days. However, this effect primarily

[26] However, the timing of the first meeting does not matter for the exit to employment.

[27] There was an earlier small scale pilot (known as "FAIR"), conducted in 2005 partly concentrating on insured unemployed, whereby unemployed randomized into the pilot were served by counsellors whose caseloads were 1:90 to 1:150 (as opposed to 1:180 to 1:500 for regular clients). Schiel et al. (2008) show that jobseekers randomized to be served by the FAIR team relative unemployed who received regular services in the same local employment offices saw a 22 percent increase in exits to sustainable jobs during the year of the pilot.

[28] We need to note that these jobseekers were recipients of UB2 (means-tested unemployment benefits), and while they were mostly formally short-term registered unemployed, many of them were in factual non-employment for over a year.

comes as an immediate jump in re-employment, which tends to fade out over time.[29] They argue that this effect on the low-educated jobseekers is indeed important as they are the most vulnerable to long-term unemployment, and the intervention is cost-effective.

2.4.3 Ex-ante effects of caseworker meetings

Meetings (and labour market measures in general) might have both *ex-ante* and *ex-post* effects (Maibon et al, 2017). *Ex-ante* effects may be realized when jobseekers, knowing that they have to meet their caseworkers soon and thus their job search intensity would be monitored, are more likely to find a job even before the prospective meeting than similar jobseekers with no forthcoming meeting appointments. The theoretical mechanism behind such effect might be considered as either the costs of being unemployed go up, or, the utility derived from being unemployed goes down. The behavioural response of being more likely to find a job might be caused by increased job search efforts, more motivation to find a job, or by lowered reservation wage (Hägglund, 2011). *Ex-post* effects are realized if jobseekers are more likely to find a job after a meeting than jobseekers who had no meeting. Such effects might be realized due to increased human capital or self-awareness due to the services given, increased job search efforts and motivation after the meetings, more effective job search technology, more information on the matching procedure on the labour market, more realistic expectations on positions or wages, or, accepting directly offered vacant positions.

Hägglund (2011) looks at the *ex-ante* impacts of job search meeting groups and individual job search monitoring in three experiments conducted in Sweden in 2004, and finds mixed results. In one of the three experiments, he estimates that random referral to both in-group job search assistance and individual job search monitoring increased the probability of exit from unemployment by 46 percents (or reduced the length of unemployment by 2 weeks) before the actual interventions could have taken place. Allocation to individual job search monitoring meetings alone, on the other hand, had no effect ex-ante on exiting unemployment. In the other two experiments that targeted specifically young and highly educated jobseekers, he finds no *ex-ante* effects. From these results, it seems that group meetings are more likely to have *ex-ante* effects than individual meetings or job search monitoring, and, these effects are more likely to be realized on 'general jobseekers', rather than on specific groups of jobseekers. *Ex-post*, on the other hand, individual meetings seem to be more effective.

2.4.4 The effects of early activation walls

As mentioned in Section 1.3.2, early activation walls are supposed to make use of the 'threat effect' of allocating jobseekers early to time-consuming activation measures. The evidence from the literature on early activation walls, i.e. the incentive power of the 'threat effect' is mixed: they usually find some positive effects on the probability of finding a job, however, whether their gains exceed their costs still seems to be an open question. In particular, earlier investigations of their impacts usually look for their exit rate effects and not their effects on the probability of finding stable, long-term jobs. Also, most evaluations of not just activation walls but some other labour market measures as well, do not look at the quality of the jobs found. Theoretically, there might be a trade-off between how quickly jobseekers find a job and its quality: due to the threat of ALMP placement jobseekers may reduce their reservation wages and accept lower-quality jobs. In a model of social benefits, if quickly-found jobs are of a lower quality in terms of

[29] As the time goes by, the effect of the treatment on being employed decreases (9.4 pp on the 120th, 5.8 pp on the 150th and 5.2 pp on the 180th day after entering unemployment) and it loses its significance starting from 150 days.

wages (or in their other parameters), social welfare might not necessarily increase due to such an intervention in spite of positive employment effects. On the other hand, early activation walls might not just lower the reservation wages of jobseekers but they might also motivate job-search and thus prevent losses in human capital due to long unemployment, which in turn might lead to higher (or at least, not-lower) wages. According to the empirical evidence, there are examples to all scenarios.

A positive impact of the threat effect on both employment and wages was found by Black *et al.* (2003) in the USA in 1994-1996. They study the impacts of a profiling tool that aimed at the classification of unemployment insurance (UI) claimants by their employment prospects and tried to identify those at risk of LTU. Using the tool, jobseekers with a high predicted probability of LTU were randomly assigned to a treatment and a control group, where treated individuals received an invitation to a meeting to discuss their placement in an ALMP programme. They find that the threat of ALMP placement decreased the duration of UI receipt by 2.2 weeks, it decreased UI receipt by $143, and increased future earnings. They conclude that these gains are the results of earlier re-employment, and, they had been realized upon receiving the invitation letter and before entering the ALMP. Hägglund (2009) similarly finds that the threat of intensive ALMP care increased both the probability of finding a job and wages in Sweden.

The results of the two already cited experiments in Denmark also shed some light on the threat effect of activation. Both experiments included a mandatory assignment to a three-month programme after three to four months of unemployment. It is clear that participation in a programme had a negative short-run effect on re-employment and only a slight positive effect on the medium term (see Gravensen-van Ours (2008), Vikström et al. (2013), Maiborn et al. (2017)). However, part of the reason why the mandatory activation speeded up transitions to work is due to a 'threat' or compulsion effect (Rosholm (2008)). Indeed, the anticipation of having to participate in such a programme increases the transition to work prior to actual participation (Vikström et al. (2013); Maiborn et al. (2017)). This is particularly pronounced if the unemployed person lives far away from the Jobcenter (Gravensen-van Ours (2011)), when the potential time-cost of participation is particularly high. However, the threat effect of activation does not seem to lead to quicker re-employment when cyclical conditions are unfavourable (Maiborn et al. (2017)). Interestingly, quicker job-finding due to the threat effect of activation did not seem to lead to worse quality (more unstable or low-wage) jobs in Denmark.

2.4.5 The General Equilibrium effects of caseworker meetings and job search counselling

All the papers discussed above, examine the partial effects of labour market interventions as they look at their impacts on the participants of the programmes only. These studies implicitly or explicitly assume that the programmes have no spill-over effects, i.e. they do not affect those who did not participate. However, this assumption may not hold if programmes are run on a large scale. Job search assistance given to a large number of jobseekers, for example, might help programme participants to find a job, but it might also affect non-participants negatively as it decreases the number of leftover vacancies.[30] Large-scale programmes might affect the whole labour market, average wages, the professional structure of workers, or firm behaviour (i.e., vacancy supply) as well. These effects are reffered as general equilibrium effects in the literature.

[30] Alternatively, large-scale wage subsidy programmes, for example, might increase the employment probability of beneficiaries, but it might also decrease the employment probability of those who are not eligible. Furthermore, substitution effects might also occur if firms replace regular workers with subsidized jobseekers.

Although they are theoretically important in the case of labour market interventions, the empirical evidence on the general equilibrium effects of labour market measures is scarce.[31] The paper by Gautier et al. (2012) looks at the effects of a multiregional randomized labour market intervention on the non-participant jobseekers in Denmark. The authors compare the labour market outcomes of non-participating unemployed jobseekers in the treated regions and those of jobseekers in non-treated regions in a difference-in-differences evaluation framework. They find that the programme decreased the probability of finding a job in the treated regions for non-participating jobseekers. Thus, the programme which increased the exit rates to employment for its participants (similarly to several other studies), at the same time had negative spill-over effects on the non-participants. As a next step, they build a theoretical model to estimate the general equilibrium effects of the programme, taking into account both its positive effects on participants and its negative effects on non-participants and conclude that on a very large scale (with a take-up above 20%) it would have decreased overall social welfare.

2.4.6 The empirical evidence on the effects of the timing of labour market interventions

In this subsection, we review the evidence on the effects of different timing schedules of labour market services and measures. While in the earlier sections we discussed the impacts of specific interventions vis-à-vis a control group that received the "usual" PES service, in the literature reviewed in this section, we concentrate on the heterogeneity of these effects with respect to the timing of the interventions.

As it will turn out, the evidence on timing is mixed. First of all, the empirical evidence on the effects of intervention timing is very narrow. To our best knowledge, there are only a handful of papers looking at the causal impacts of timing. Secondly, although the literature does not agree that earlier entry to classic ALMP's is more effective, some papers do find higher effects of job search programmes and counselling caseworker meetings in case of early entry. In most of these studies, general composition effects (i.e., those entering programmes early may be inherently different from those who enter late) are controlled for, however, as time goes by after entry to unemployment, there might be a sequential selection process in every point in time that is hard to take into account.

The first attempt to evaluate the effects of intervention timing is that of Weber and Hofer (2004). They look at the "job coaching" program in Austria, introduced in 1999 as a complementary tool to training programs. The 6-week program concentrated on the training of job search skills, as well as it left time for the jobseekers to actively search for jobs. Theoretically, it was planned to be available for jobseekers in the first four months of UE, but practically, only 63 percent of participants entered the programme in this period; 22% entered between 4 months and 1 year, and the rest of the participants was unemployed for more than 1 year. The authors use the timing-of-event method to identify the causal effect of entry time on the duration of UE.[32] They find no variation in the effects of the program within the first year of UE. They estimate that job coaching decreased the duration of residual unemployment (the number of days spent in UE after

[31] The seminal paper by Crepon et al. (2013) looks at a job search counselling programme for young, educated long-term unemployed. Given that differing portions of eligible youth were assigned to the programme in different micro-regions, the authors were able to estimate general equilibrium (displacement) effects. In fact, part of the employment gains come from the lower employment chances of youth who did not participate in the programme.

[32] The timing-of-event method is a multivariate procedure (Weber and Hofer, 2004). The effect of personal characteristics and other control variables on the timing of entry and the effect of programme entry (along with other control variables) on the outcome variable are estimated together, allowing for correlated time-invariant unobserved individual effects. The identification strategy thus relies on the assumption that while unobserved individual effects are constant in time, the programme effect starts only after programme entry.

entering the programme) by around 30 percent (or about 30 days) if participants entered the program on the 60th, 120th, 180th, 240th or 300th day of unemployment. When reaching 1 year spent in UE, however, the effect of the program starts to decrease, and it even turns to negative after 480 days.

A further paper finding little evidence on the effects of early vs. late entry to interventions comes from Carling and Richardson (2004). They look at eight Swedish labour market programs using detailed administrative data from 1995-1997. The eight programmes include both services (job search training) and classic ALMP's (see Table 1.). This evaluation is special in the sense that they do not compare treated groups to a control group that had not received any measures; they compare jobseekers that participated in at least one of these 8 programmes to each other. For those that participated in more than one programme, they evaluate the effects of the first one. They estimate the effects of timing by interacting the programme indicators with the length of the UE spell at the time of program entry in their duration model, and only find significant coefficients on the interaction term in the case of two measures: classroom computer training and a type of wage subsidy. In spite of this, the rank of the effects of each measure on the probability of re-employment do not change whether or not these interaction terms are included; thus, they conclude that "the timing of placement in programs does not affect the relative efficiency of the programs".

Sianesi (2004) also looks at the effects of Swedish labour market programmes of the 1990's conditional on the timing of entry to the program. She uses a different identification strategy to Carling and Richardson as her control group includes jobseekers who did not take up any programs up until the time when the treated individuals entered the programs (but they might afterwards). Her identification strategy relies on the assumption that all characteristics affecting programme participation and labour market outcomes are observed (selection on observables), which is a strong assumption. She finds mixed results, including that earlier allocation to labour market programmes increases the probability of finding a job, but at the same time, it increases the probability of staying in the UI benefit system as well. By contrast, Vikström (2017) who also evaluates the timing and sequencing of active measures in Sweden finds very little evidence supporting the notion that earlier programme entry leads to larger re-employment effects. He looks at three types of programmes: training, wage subsidies and work trials, and controls for dynamic selection into the programmes.

Fitzenberger et al. (2008) uses a similar methodology to Sianesi (2004) to look at three different (West) German training programmes: on-the-job training (in practice firms), short-term skills training and vocational re-training. They examine whether participating in a programme at different points of an unemployment spell (0-6 months, 6-12 months; 12-24 months) influences the effect of the programme on the medium- and long-term employment outcomes of participants relative to non-participants. Similar to other evaluations of training programmes, all three programmes are effective in the long-run, but they all have a substantive lock-in period.[33] Most notably, the authors find that the employment outcomes of those who participated in training in the first 6 months of their unemployment spell, are no better, but likely worse than those who started later. This is

[33] Clearly, the length of the initial lock-in period differs across the programmes, and is related to the length of the programme itself. Based on the cumulative employment effect of the programmes up to 6 years after inflow into unemployment, vocational retraining only has a small positive effect (roughly 7 additional weeks in employment), while on-the-job training has a sizeable positive effect (roughly 27 weeks more spent in employment), and general skills training having the largest beneficial effect (around 35 weeks of additional employment).

due to the fact that the period of initially lower employment rates than the comparison group is much longer for these individuals.

In terms of sequencing, early skills training followed by job search assistance seems to do better than the other way around. Lechner and Wiehler (2007) estimate the effects of timing interventions, and, the effects of participation in a sequence of interventions. Their method is able to take into consideration that participation in a programme may depend on past participation in an earlier programme, and also on some intermediate outcomes in between. We concentrate on their evaluation of the timing for our purposes. They use very detailed Austrian administrative data from 1985-2005, and a dynamic evaluation framework that allows for selection in each point in time, conditional on all available contemporaneous and past information in each period, including past participation in labour market programmes.[34] They look at three types of labour market interventions: job search training, qualification measures developing basic skills, and, financial support for courses of external providers. Furthermore, they differentiate between entering each programme in the first, second or third 4-month period (i.e., trimester) of the first year in UE. Their main findings include that there is no difference in the effects of any programme if entering in the first or in the second trimester, but programme entry in the third instead of the first trimester increases the duration of unemployment in the case of all programmes. One potential explanation to this phenomenon could be the lock-in effect: those who entered a programme in the third trimester are supposed to be in the programme for some more trimesters to come, thus, they would stay in UE for longer. However, in the case of the job search training and the qualification measures this difference in outcomes stays significant even after 4 years so it cannot be explained by lock-in effect alone. Comparing programme entry in the second vs. third trimester shows similar effects: earlier programme entry decreases the probability of subsequent UE by 6-10 percent even after 3-4 years.

Table 2. The evidence on the impacts of timing of active measures

	Type of intervention	Timing measurement	Short-run effects of earlier entry	Long-run effect of earlier entry
Weber and Hofer (2004)	6-week job-search training	60-day intervals in the first two year of UE	No variation of effects within the 1 year of UE	-
Sianesi (2004)	The Swedish ALMP system as a whole	Continuous timing	Earlier entry to programmes increases the probability of finding a job	Earlier entry to programmes increases the probability of finding a job
Carling and Richardson (2004)	Self- employment grant, on the job training, wage and employment subsidy, labour market training, computer training	Continuous timing	Some impact of timing for computer training and wage subsidy, not comparable to the rest of the literature	-
Fitzenberger et al. (2008)	On-the-job training; vocational training; general skills training	0-6 months; 6-12 months; 12-24 months	Larger negative effects for earlier entrants	Positive cumulative effect, but lower for earlier entrants

[34]More precisely, identification is based on the weak dynamic conditional independence assumption (WDCIA), and in practice it uses dynamic propensity scores (Lechner and Wiehler, 2007).

Lechner and Wiehler (2007)	Job-search training, basic skill training, course voucher	1st vs. 2nd vs. 3rd trimester of UE	No variation between 1st vs. 2nd trimester; entry in the 1st and 2nd is more beneficial than in the 3rd.	No variation between 1st vs. 2nd trimester; entry in the 1st and 2nd is more beneficial than in the 3rd.

Source: Own collection

2.5 Evidence on the costs and benefits of early activation services

From the literature reviewed in the earlier subsections, only a few studies conduct a cost-benefit analysis of the examined measures. In this subsection, we return to these papers so. Cost-benefit analyses in the literature fall into two main categories, depending on the benefits of the programmes they take into account. The first group measures financial programme benefits simply as unpaid UI receipts due to shorter unemployment spells, and does not take into account any gains. Behagel et al. (2014) estimates the amount of saved UI benefits in a year as well as the costs of providing the regular and the programme interventions. They find that the evaluated public counselling programme saves 589 EUR per person from the budget in the year of the programme, based on its intention to treat, in other words, for every person it was offered to (not based on actual participation). However, as they estimate their coefficients with high errors, this amount is not significantly different from zero. Hainmueller et. al (2016) examine the effect of a reduction in caseloads in Germany on UI benefit payment, and find that eight months after the start of the pilot, the savings on benefits outweigh the additional costs from increased number of counsellors. They conjecture that the pilot resulted in a 5 percent reduction in costs, however, they do not examine whether this decrease was statistically significant.

Rehwald et al. (2015) estimate the costs of public and private labour market service provision specifically for highly-educated jobseekers to compare which of the two is more efficient. They estimate the direct costs of public services adding up three elements: human resource costs of caseworker meetings, unit costs of ALMP participation and UI benefits. For private providers, they use information from the contracts of the contracted-out services. UI benefit payments amount to the same for both providers. They conclude that although privately provided services are more employment-related and more intense, they are equally effective and also equally costly as public services.

The second group of studies extends cost-benefit analysis by taking into account further factors beyond unpaid UI receipts. Most of these papers estimate the amount of wages generated by higher employment levels due to the programmes, and calculate public revenues coming from additionally generated personal income taxes. Maibom et al. (2017) provides a cost-benefit analysis of three types of early interventions. On the cost side, they estimate the human resource costs of caseworker meetings similarly to Rehwald et al. (2015). An important difference relative to all other papers is that in Denmark, UI benefits are taxable incomes; thus, when they calculate the public expenditures of benefits, they extract their related income tax liabilities and the VAT tax that would have emerged in case of their spending on goods and services. Similarly, they also take into account income and VAT tax benefits coming from higher employment probabilities. To keep things transparent, they assume that all extra production that is realized due to higher employment levels is accumulated solely at the workers; thus, the budgetary effects on firms' tax payments is zero.

In Maibom et al. (2017) and also in some other papers, the employment effects of the programmes are estimated with high errors and even though they might be large they are not significantly different from zero. There are two ways to deal with this problem.

One approach would be to estimate costs and benefits only for programmes with (mostly) significant effects. The second approach is allowing for a variability of the estimated cost-benefit balances according to the confidence intervals of the estimated programme effect coefficients. Maibom et al. (2017) follow the second approach and thus estimate large intervals. Out of the three programmes examined by the authors, only one (individual caseworker meetings) results in a strictly positive balance interval (486-8,215 EUR after 237 weeks) which is quite large to draw policy conclusions.

Fertig (2015) evaluated cost effectiveness of the 'Berlin Job Offensive', taking into account unemployment benefit savings, higher revenues from income taxes and social security contributions as well as lower ALMP use costs. He estimates that the net savings per head over a two-year period was around 1,970 €. This amounts to a gains to cost ratio of over 4,5:1; and the savings from decrease spending on benefits was large enough to yield a gains to cost ratio of 2,5:1.

A unique approach is followed by Gautier et al. (2012). They build a search model to estimate the costs and benefits of a Danish experimental labour market intervention that takes both the positive direct effects on the participants and the negative spill-over effects on the non-participants into account. Their general equilibrium model imposes a higher penalty on the search costs of non-participants depending on the scale of the program: it assumes that the higher the share of jobseekers participating in the programme the higher the negative spill-over effects are going to be. They estimate both public expenditure and welfare effects, and find that the optimal take-up that minimizes the expenditures is 30%, while from a welfare point of view the optimal take-up is 20%.

As it seems from the literature, it is not straightforward to examine the efficiency of early activation measures. On the one hand, their impacts might be estimated with large errors already that makes the calculation of potential gains quite vague. On the other hand, while the costs of the measures can be known more easily, their benefits are much harder to assess, even in the short run. Thus, although early activation might be effective, it might not necessarily be also efficient.

3 Timely and tailor-made support – state of play for six case study countries

3.1 What we set out to do and what we will be able to present – and why

The objective of this chapter is to map the current approach to timely and tailor-made support to jobseekers in Member States in six European countries (PES).

The case study countries were selected using the following dimensions:

a) Current maturity level of provision of services and measures

b) Existence of good practices (evaluation results) on prevention of unemployment and early intervention

c) Likelihood of having access to reliable (high quality) data on costs

d) Geographical coverage and institutional setup of PES

Since one of the prime objectives of the 'case studies' was to generate reliable data on cost of alternative services and measures, as well as information on the (relative) effectiveness of these, we gave less weight to dimensions (b) and (c). As a result, the majority of Public Employment Services considered here are at relatively high maturity level.

Thus, we first selected the following four PES: Denmark (Northern Europe, decentralised PES), Estonia (Eastern Europe, centralised PES), Germany (Central Europe, regional PES autonomy with central steering) and the VDAB (Central Europe, centralised with strong local autonomy).

In order to highlight how establishing and implementing a well-developed early intervention might be conducive to significant gains for PES, we included two further countries which are developing in this respect, but where access to data might not be a serious obstacle for our work. From this perspective, we selected: Portugal (Southern Europe, centralised PES) and Slovakia (Eastern Europe, centralised PES).

Given the difficulties encountered throughout the data and information collection, we will at first instance present full results for five countries: Belgium (Flanders), Denmark, Estonia, Germany, Portugal and Slovakia, for which we have gathered information and data through labour market experts and Public Employment Services.

3.2 State of play for six countries

Given the objective of this study, we will briefly discuss the state-of-play, in other words, the service concept of the different PES (augmented with data), as of early 2017, along the following dimensions:

- Is there pre-registration support? And is the content wider for those in collective dismissal?
- How does profiling and segmentation work?
- What services do unemployed receive between month 0-6? In particular, how often do unemployed persons and job counsellors meet?
- In sequencing services and ALMPs, does there seem to be a clearly defined strategy?

3.2.1 Belgium (Flanders)

In case of lay-off, both individual and collective, jobseekers receive mandatory notification of dismissal, after which they can voluntarily register with the PES to access

the services. The PES does not offer specific services targeted primarily at jobseekers at risk of becoming unemployed. They are considered as vulnerable employees and can make use of the "career counselling" offered to all employees. In case of collective dismissal, jobseekers have access to all services on the same grounds as unemployed jobseekers after becoming unemployed. However, collectively dismissed jobseekers can enter an "employment cell" (set up VDAB and partly financed by employers) which offers outplacement services before they become officially unemployed.

To determine the distance between unemployed jobseekers and labour market, the VDAB uses counsellor-based segmentation. During the initial, and further interviews, counsellors check a number of 'working points' as structured list of barriers to re-employment. Based on these interviews, jobseekers are segmented into self-reliant (closer to the labour market, able to search for vacancies using online tools of the PES) category or if s/he needs a specific service.[35] The intensity of the services depends on the needs of a particular jobseeker, and the initial assessment of such needs, in principle, is carried out as soon as possible.

Because the VDAB relies upon a "customised" approach, there is no clear pattern in timing or strategy as for when and how services are provided; it depends on the needs of a particular jobseeker. Both "disadvantaged" jobseekers and those closer to labour market have access to services such as face-to-face or online meetings with counsellors where they receive individual/group guidance and monitoring of their job search efforts. Typically, 6 individual meetings and 2 group meetings are scheduled for the first 6 months of unemployment spell. "Disadvantaged" jobseekers are also provided with wage subsidies and employment on the secondary labour market.

3.2.2 Denmark

Jobseekers, having received a notice of dismissal, can voluntarily seek the services of the local Jobcentre, while in case of group dismissal, it is mandatory for the employer to notify the PES, and those workers involved in the dismissal will register as jobseeker. The range of services which can be accessed prior to registration as unemployed is relatively wide, and for those involved in a group dismissal a 2 week job search course can be offered prior to becoming unemployed, while jobcentres can offer subsidy for 8 weeks of guidance and re-qualification in the notice period.

Unemployed persons are to participate in an initial (profiling) interview within 2 weeks of registration, where the results of statistical profiling are combined with the assessment of the counsellors (as well as a voluntary self-assessment questionnaire). All these different diagnostics are used to predict the unemployed person's chances of becoming long-term unemployed, as well as to segment jobseekers into three categories. These are 'job ready' - close to the labour market, 'education ready' - those are to take on education, primarily under 30 years old, and 'activity ready' - persons having problems in a variety of ways and where extra support of more than one year is needed before being able to return to the labour market.

The timing, range of services and measures are directly and clearly related to the segments. For those closer to the labour market, during the first 6 months of the unemployment spell, the unemployed receive only (intensive) services in the form of monthly (face-to-face) meetings with their (personal) job counsellor and potentially some job search training. For this group, active measures are typically only accessed during month 7-15 of their unemployment spell, when they can access short-term training

[35] Furthermore, groups such as youth, elderly, persons with (at risk of) occupational disability and long-term unemployed are prioritised and considered as "disadvantaged".

programmes, company-based (adult) internships or wage subsidies (in the private sector). The integration strategy for persons further away from the labour market gives a larger role to active measures. More precisely, these unemployed can have access to a wider range of ALMPs (including longer re-training programmes, and work experience programmes), in the first stages of their unemployment spell already. By contrast, meetings with job counsellors are scheduled to happen less often, four times within the first year of the unemployment spell.[36]

3.2.3 Germany

The regulation relating to registration as jobseeker after having received a notice of dismissal is rather exceptional in Germany (relative to the majority of other Member States). First, as soon as somebody knows that the current employment spell will come to an end, the individual is automatically required to register (in person) at the employment agency. This registration as jobseeker in general must take place at least three months before the employment is due to end.[37] Similarly to other countries, in case of mass layoff, it is the employer who has to notify the relevant local Employment Agency. Prevention forms an important part of the Bundesagentur für Arbeit's goals, and the prevention of unemployment[38] is one of the key performance indicators. In line with this, the local PES can deploy a large number of active services and measures for those at risk of becoming unemployed, with the most widely used being job search counselling and job referrals.

Furthermore, in the case of those affected by group dismissal, there are additional instruments available, which the PES supports financially by deploying 'transfer benefits'. On a voluntary basis, employees can be transferred to a 'transfer company', which provides work opportunities for the persons affected by layoffs, as well as services which improve the re-integration possibilities of jobseekers. Transfer companies are established through a legally defined procedure in close cooperation with the Employment Agency. Up to 50% of the costs of the transfer measures are financed by the PES. In addition, the PES and the employer can co-finance the long-term training of job seekers without professional qualifications. Finally - if the employer cannot pay the full wage - the PES makes up to 100% of the job seekers' wages available in the form of a "transfer short-time work allowance" for a maximum of 12 months.

Once a person registers as unemployed, the initial profiling interview is scheduled within 10 working days. This initial profiling is based on an in-depth interview with the employment counsellor, whereby the goal is to assess both the unemployed persons' strength and weaknesses (both in terms of 'hard' and 'soft' skills).[39] Based on the profiling interview, the employment counsellor – with the assistance of data analysis - assesses whether unemployed persons is likely to find a job within 12 months or not. Furthermore, based on the distance from the labour market two main profiles formed,

[36] Supportive evidence of this is that among those on UI Benefits (who are typically closer to the labour market), the activation rate of prime age recipients was around 14,7%. Among Social Assistance recipients (who are not eligible for UI Benefits either due to non-adherence to the UI Funds, or not having sufficient employment history), who are typically further from the labour market, and tend to have longer non-employment spells, the activation rate is 27,5%. These activation rates were calculated as a three-year average of 2014-2016 and based on data published by the Danish Statistical Office.

[37] If the time between receiving the notice and the last day of work is shorter than three months, the individual has to report to the employment agency not later than three days after receiving the notice.

[38] In other words, that the jobseeker finds a new job before the end of the current employment relationship, during the notice period.

[39] Profiling is part of the "4-phase model of an individual integration approach". This model demands that counselling of and service provision to each and every "able-to-work persons in need" is organized as follows: (1) assessment of employment potential (profiling), (2) choice of target occupation, (3) choice of individual integration strategy (including signing of IAP) and (4) follow-up of strategy.

however, based on the integration strategy deemed most appropriate, unemployed persons are assigned to one of further six profiles.

The intensity and range of services and measures largely depends on the unemployed person's profile. While the exact 'mix' of services and measures are to some extent at the discretion of the job counsellor, who will have to consider local capacities for active measures as well as the local labour market conditions. In general, those further away from the labour market will more often be assigned measures[40], and will tend to receive more intensive follow-up. Furthermore, the frequency of face-to-face contact is not prescribed, it is generally decided upon by each local labour office.[41]

3.2.4 Estonia

In line with the regulation of other Member States, persons at risk of losing their jobs can voluntarily register as jobseeker at EUIF, and the employer has to report group dismissals (and the persons affected). While those at risk of losing their jobs primarily have access to jobs search counselling services (individual or in group), in certain cases, active measures can also be accessed. In principle, disadvantaged jobseekers (prior to registration as jobseeker), as well as those affected by a group dismissal can be admitted to a wide range of measures, including (vocational) re-training, work practice, business start-up subsidies etc. Furthermore, EUIF has a specific rapid response team which is organized to give job search counselling and other information to employees affected by a larger group dismissal on the premises of the employer.

Individual assessment and profiling is mandatory in Estonia, and will in general be done at the same time as drawing up an IAP, no later than 30 days after registration as unemployed. The assessment is largely counsellor-based soft profiling, and based on this, unemployed clients will be assigned to one of three segments. 'Job mediation' clients are the closest to the labour market, while more disadvantaged clients are assigned to 'case management'. Within the latter segment, two categories are used, one for those with complex problems, including significant health issues (who might be deemed unfit for work); while the other includes those who have low skills, low self-esteem etc.

Service strategies are clearly related to the above-mentioned segments, however, the EUIF places a large emphasis on individualized, tailor-made solutions and work-focussed counselling is one of the central elements. Both non-disadvantaged and disadvantaged clients are to meet their counsellors at least once per month. However, the length of these meetings is longer for 'case management' clients than for 'job mediation' clients (30 minutes as opposed to 20 minutes) and accordingly, job counsellors for disadvantaged clients have lower caseloads (140 vs 220 clients). In line with the service strategy, disadvantaged unemployed have access to a larger variety of active measures. Specifically, 'case management' clients can be enrolled in wage subsidy programmes, in employment measures on the secondary labour market, as well as in complex programmes. In terms of sequencing of active measures, the only type of measure that cannot be started prior to 6 months of unemployment is wage subsidies; admission to all other measures can happen from after the drawing up of the initial IAP. However, statistics on timely activation reveal that during the first year of unemployment, only

[40] Note that only disadvantaged clients have access to complex programmes, programmes on the secondary labour market, and some long-term wage subsidies are also reserved for these client segments.
[41] Based on survey evidence, it seems that job counsellors tend to meet their unemployed clients once every two months (with each session lasting about 30 minutes).

10,5% of unemployed are on active measures, while this ratio is 26,8% for long-term unemployed.[42]

3.2.5 Portugal

In the period prior to registration as unemployed (after a dismissal notice has been received), workers can voluntarily access the services and measures of IEFP. The array of measures for these registered jobseekers is relatively wide, including counselling, training measures, etc.[43] It is worth noting that those persons whose work contract suspended, can have access to all ALMPs, similarly to registered unemployed (who have lost their employment).

Mandatory preliminary profiling and segmentation happens as early as within 5 days in Portugal. This builds largely on statistical profiling in combination with job counsellors' assessment. As a result, unemployed clients are assigned to one of three segments, based largely on their estimated probability of becoming long-term unemployed. The intensity of services offered, the number and type of active measures prescribed in Individual action plans largely depend on the client's segment.

The service strategy foreseen basically prescribes more services and measures for those further away from the labour market. The minimum number of face-to-face meetings between the job counsellor and the unemployed person is 2 sessions within the first six months of the unemployment spell each lasting about 45 minutes. However, for more disadvantaged clients, the number meetings can be increased if needed, and meetings typically last for up to an hour. In terms of sequencing of services and measures, in the first six months of the unemployment spell 3 group job search sessions are scheduled (4 for disadvantaged jobseekers), while active measures can in principle be accessed at any point during the unemployment spell. It is worth noting that short-term unemployed persons (with spells shorter than 12 months) are found to participate more often in active measures (31,3%) than long-term unemployed (24,4%).[44] Similarly to other countries, more disadvantaged clients can be prescribed a slightly wider range of measures, meaning they have access to long-term vocational training courses (as opposed to short-term training courses, work practices, and traineeship programmes).

3.2.6 Slovakia

Similarly to other countries employees, having received a notice of dismissal, can voluntarily seek the services of the PES, while in case of group dismissal, it is mandatory for the employer to notify the PES, and those workers involved in the dismissal will register as jobseeker. The range of services which can be accessed prior to registration is minimal, as jobseekers have access to the online vacancy database of the PES, and persons affected by a group dismissal do not receive any additional services.

There is no mandatory profiling (assessment) in Slovakia, however unemployed persons can voluntarily ask for an assessment (or at their counsellors' recommendation). There is no systematic segmentation based on 'distance for the labour market', rather there are 12 'disadvantaged groups' (based on objective criteria such as age, education, health impairment etc.) which have preferential treatment in terms of access to measures.

Given the lack of segmentation strategy, we cannot speak of separate activation strategies for different groups. However, there are active measures which are specifically

[42] These statistics are three-year averages of 2013-2015 of Eurostat data.
[43] Note that workers with suspended employment contracts on the grounds of non-payment of salary can register with the job center having equivalent rights as those registered as unemployed, hence accessing the same range of services and measures.
[44] These statistics are two-year averages of 2014-2015 of Eurostat data.

targeted for one (or more) of the disadvantaged groups. Likewise, there is no general 'early intervention strategy', in principle all groups have access to a similar range of services and measures (except for those measures specifically targeted), and there is no clear strategy in terms of timing. Similarly, there is no clearly defined regularity and timing of meeting between job counsellors and registered unemployed. In general, registered unemployed are required to report to the local labour office once a month, however, until recently (due to high caseloads for counsellors) these meetings had the primary objective of monitoring job search efforts and providing job referrals.[45] In terms of active measures, participation is relatively low, and low-educated persons (an officially listed disadvantaged group) had lower probability of entering an ALMP than those with medium or high education.[46]

[45] This can vary across local offices. In recent years, there was an increase in the number of counsellors, so caseloads as of 2016 was around 200 registered unemployed/counsellors.
[46] Note that entry rates based on individual spell-level data are significantly lower than the figures calculated based on stocks.

4 The scenario analysis: costs and gains to providing early intensive meetings

4.1 The early intervention package studied and what we do

Based on the conclusions of our literature review (in Section 2), we will use a stylized version of the (experimental) early intensive service interventions in the cost-gains scenarios discussed. This means that following an initial profiling/segmentation interview, for six months in the beginning of the unemployed person's unemployment spell, face-to-face meetings between the client and the job counsellor are to take place every fortnight. The focus of these meetings is personalized job search counselling, and providing job referrals, and we assume that these meetings last about 30 minutes, each. This effectively means that in countries where the 'standard' service package is one meeting per month (lasting 30 minutes), we double the amount of time devoted to an unemployed person (for 6 months); while in a country where unemployed persons are only supposed to go for an interview once every four months, we effectively quadruple the amount of time devoted (see the exact number of added meetings in each country in Table 1 in Annex A). Given that the effectiveness and the cost efficiency of these interventions (as well as current service strategies) might differ across those closer to the labour market (non-disadvantaged) and those at risk of long-term unemployment (disadvantaged) we will discuss the cost-gains scenarios for these two groups separately. Please note however that that we do not differentiate between the frequency of meetings and the length of a given meeting across disadvantaged and non-disadvantaged in the 'preferred service package'.

There are several reasons why intensive meetings between the unemployed person and her (personal) job counsellor might work. First and foremost, employment counsellors can achieve a better and more detailed understanding of the problems and needs of their clients and develop increasingly tailor-made solutions to them (rather than sending them to an ALMP-measure). Second, reduced caseloads might lead to counsellors generating more and 'better matched' job referrals, and this has been shown to be especially important for disadvantaged jobseekers for whom search might be relatively costly. Third, the more frequent contact allows for personalised job search counselling, which in turn increases the efficiency with which unemployed persons search for jobs. Furthermore, due to this counselling process, jobseekers might revise their expected wages or set of acceptable jobs, and through a more realistic self-perception this can lead to a higher job-finding success. Fourth, early and frequent contacts can also help to increase the motivation and search efforts of jobseekers. This might be especially relevant for non-disadvantaged persons who tend to over-estimate their re-employment chances. Fifths, after some unsuccessful applications, jobseekers might become discouraged, and through frequent contacts counsellors can give moral support which can lead to keeping up job-search motivation. Sixth, frequent contacts also mean more effective monitoring of job search activities, which might help to give an incentive to de-register to those who are misusing the PES system. It is also worth emphasizing that these services seem particularly cost effective – as the wage costs of recruiting additional job counsellors is relatively low.

It remains open whether having a large-scale rollout of these meetings is effective for raising overall re-employment rates, as they might have less beneficial effects (negative spill-over effect on the job finding chances due to increased competition for jobs) for those individuals not having access to these services. Hence, the targeting of these services has to be carefully considered, and to some extent depends on the preferences of policymakers. Furthermore, since counselling meetings primarily affect the supply of labour, it is not clear whether intensive meetings are equally effective during recessions.

Given our reading of the literature, measures devoted to those affected by group dismissals are likely to be not cost-effective, hence in this version of the study, we will not assign any active measures to the pre-registration (as unemployed) period. Furthermore, since there is no convincing evidence that earlier assignment to active measures (classic ALMPs) is more effective than later assignment, we will propose to leave the timing, sequencing, range, composition and number of participation to active measures as it is, i.e. keeping the status quo.

In this section, we provide a cost-benefit scenario analyses for the implementation of the optimal 12-meeting package (fortnightly meetings for 6 months) of early activation services (individual face-to-face caseworker meetings) in the six case study countries. We outline the methodology of the analysis, including how our cost-benefit estimation model works, using the example of Denmark. Then, we discuss our results for all countries.

We estimate the costs and benefits of introducing the 12-meeting package in a simple 3-period model of unemployment. Ideally, one would want to extend this exercise to cover the pre-unemployment period in which employees face the risk of unemployment; however, as we have no access to data for this period we cannot incorporate it into the model. The first period thus captures the first 6 months of unemployment: this is the period in which the newly introduced early intervention package takes place. The second period covers the second 6 months, while the third period captures the second year of unemployment. Jobseekers either move from one period to the next, or they exit to employment (which we call as transition to employment). We assume that those assigned to the 12-meeting package are more likely to transit to employment than those who receive the standard service, and thus, generate more income and VAT tax revenues and lower unemployment benefits and ALMP costs to the public budget. We provide more details about the logic of the model in the next subsection.

Within our cost-benefit analysis, we use scenario analysis, where the main difference between the scenarios will be (a) who gets services and measures ('disadvantaged/hard to place' jobseekers vs. 'those closer to the labour market'); and (b) in what proportion.[47] We need to emphasize that in our analysis, we solely consider short-run costs and gains for the public budget. Clearly, if one would take the point of view of society as a whole (also incorporating the costs and gains for jobseekers), and the incorporation of medium to long-run effects, the conclusions would be very different.

4.2 Methodology

We estimate the costs and benefits of assigning certain shares of newly registered jobseekers to the 12-meeting intervention during the first 6 months of their unemployment period. We differentiate the impacts of the intervention between *high-skilled* and *low-skilled* jobseekers, aged 25-54. By *high-skilled* jobseekers, we mean those having at least an upper secondary degree (ISCED 3 or above), and by *low-skilled* jobseekers, we mean those having at most a lower-secondary degree (ISCED 1 or 2). The main goal of this differentiation is to define *non-disadvantaged* and *disadvantaged* jobseekers in such a way that would theoretically minimize deadweight loss from giving an intervention too early to those who would be highly likely to find a job without interventions anyway. Such categorization based on educational attainment is

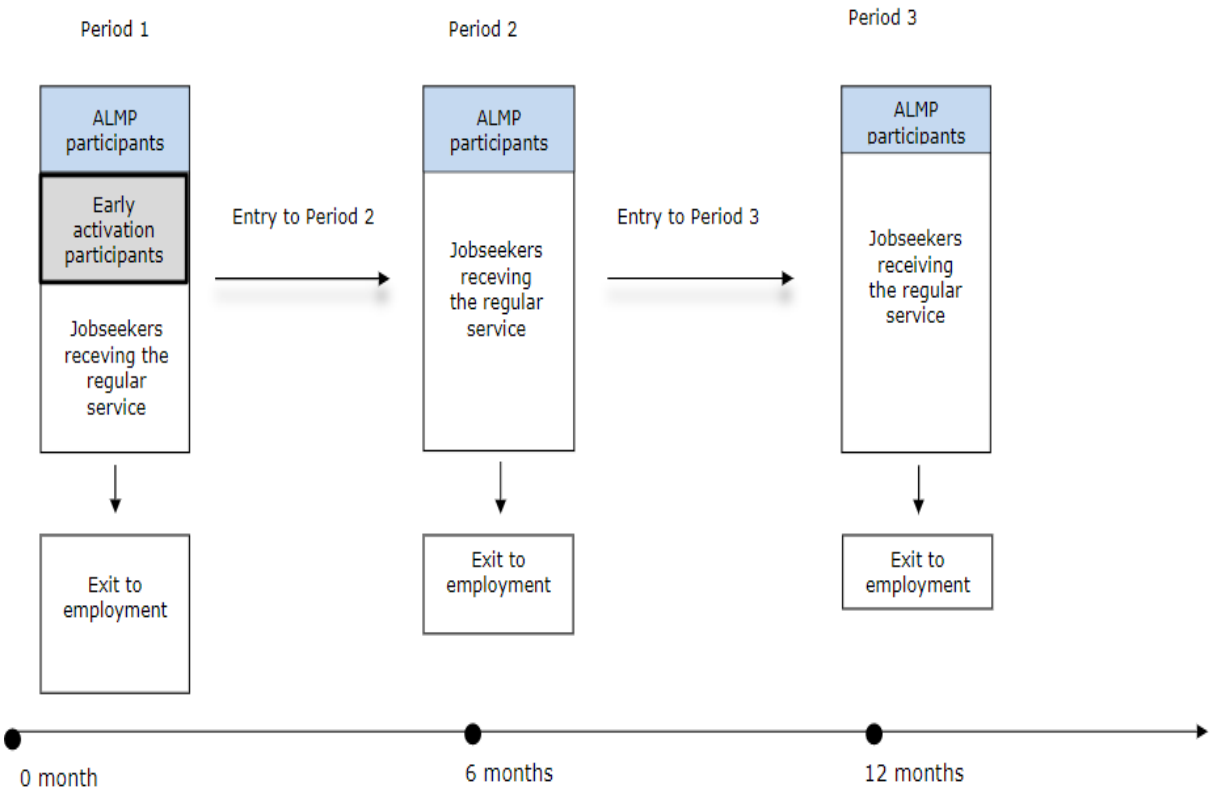
[47] Ideally, we would also want to vary when (at what stage of the job search process) the intervention starts. Also, it would be best to start the model before jobseekers enter unemployment by looking at pre-unemployment interventions for employed people who are at risk of unemployment; however, there is not enough evidence and data to conduct such analysis.

straightforward, because (1) it captures the gap between the labour market potential of non-disadvantaged/disadvantaged jobseekers well, (2) most data that we need to conduct this analysis is available or could be easily constructed based on access to individual level administrative data (wages, etc.), and, (3) it is defined the same way in all countries, thus it provides comparable results.[48]

The model follows newly registered jobseekers for three periods: the first 6 months of unemployment (Period 1), the second 6 months (months 6-12) of unemployment (Period 2), and the second year (months 13-24) of unemployment (Period 3) (see Figure 1). Jobseekers enter the first period when they enter unemployment. At the end of each period, jobseekers either move on to the next period or exit to employment with certain probabilities.

In Period 1, jobseekers might receive three types of service. First, they might enter ALMPs with a given probability that is country-specific and is either estimated from publicly available data or provided by country experts. Throughout this analysis, we keep the share of those assigned to ALMPs during the first period constant. The rest of the jobseekers might be either assigned to the 12-meeting intervention, or to the usual service. At the end of Period 1, jobseekers might either exit to employment, or, they stay in unemployment and enter Period 2. In Period 2, jobseekers might either get assigned to an ALMP or to the standard service, and at the end of the period they either exit to employment, or, enter Period 3. Period 3 again offers ALMP's and exit to employment, but by lower probabilities than Period 2 (see Figure 1).

Figure 1. Flowchart of the model



[48] Note that in an ideal case, one would want to define these groups based on the results of an in-depth profiling which would estimate the 'distance from the labour market'. However, given the differences across countries in how this segmentation is done and the difficulties with obtaining data based on such a grouping we chose to use educational attainment.

It is important to keep in mind that this analysis examines the potential of introducing early labour market interventions vis-à-vis not giving intensive services to jobseekers at the beginning of their unemployment period, and not vis-à-vis active labour market programmes. Due to this, the cornerstone of our analysis is that we assign only the share of jobseekers to the early intervention package that was not assigned to ALMPs. We fix the share of ALMP participants in the first period and build scenarios using only the rest of the jobseeker pool (i.e., those who cannot participate in ALMP's, referred to as *available jobseekers*) to make clear that we do not examine the trade-off between activation services and ALMPs. ALMP participation rates are country specific and come from public PES data or were provided by country experts (Annex A, Chapter 1).

Theoretically, such a trade-off might exist: if ALMP's are relatively more expensive than early activation but for some groups of jobseekers they are not more efficient, the optimal allocation would include more jobseekers assigned to early activation and fewer jobseekers to ALMPs. However, such a result might be misleading because in this exercise we only look at short-term effects, and ALMPs are more effective in the long run (Card, Kluve and Weber, 2015). Long-term gains are not incorporated in this model, thus, we do not manipulate ALMP participation in the first period. In spite of this, the model does provide some gains from lower number of ALMP participants in the second and third period, due to the impacts of early intervention. If less jobseekers enter the second and the third periods due to a higher probability exit in the first period, and, the share of jobseekers allocated to ALMP is constant, less jobseekers will enter costly measures as well.

In the baseline scenario, we calculate the costs and benefits of assigning *none* of the available jobseekers to the 12-meeting intervention. We then compare the baseline outcomes to the cost and benefits of 10-, 20-, …, 100-per cent take-up rates of both types of jobseekers to the baseline; thus, altogether, we examine 11*11-1=120 alternative scenarios in each country. We look for the optimal allocation of both 'types' of unemployed such that it provides the maximum short-term budgetary gains vis-à-vis the baseline scenario. For Denmark, that we use as an example country to make the description of the model easier to follow, as it will be shown in more detail, the optimal scenario will be to assign 50% of low-skilled and 50% of high-skilled jobseekers to the intervention. However, we have to emphasize that this is by construction a stylised model that helps to understand the trade-off of early activation between higher employment rates vs. deadweight loss, depending on the distribution of jobseekers in a country. Thus, results should only be interpreted in relative terms, in comparison between each scenario within a country.

The *costs of the early intervention package* are estimated country-by-country, based on its human resource needs in terms of caseworkers' working time and using an overhead rate.[49] Annex A provides more detail on the exact technicalities and data sources regarding this and all forthcoming elements of the model. Furthermore, we assume that the marginal costs of the intervention (i.e., the costs of including one additional person in the intervention) equal to the average costs. [50]

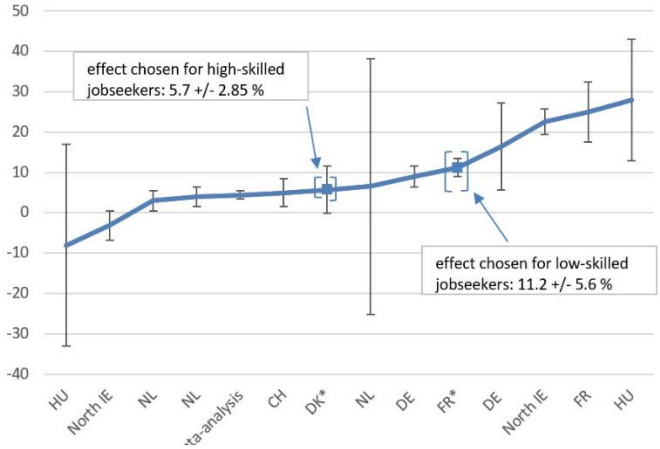
The *expected impacts of the intervention* are parameterized based on our survey of the empirical literature on the impacts of similar interventions. By impact, or effect, we mean the increase in the probability of finding employment due to the intervention, compared

[49] Caseworkers' wages are proxied by the gross hourly labour costs of those working in the Services of the business economy NACE Rev. 2., as reported by the Eurostat. See more on this in Annex A.

[50] It is important to note that although we have asked this explicitly, none of the country experts (or the PES) provided us with a hypothetical estimate of how much such an intervention would cost in their countries.

to the same probability of those who do not participate in any interventions. Figure 1. plots the effects of counselling, monitoring, and caseworkers' caseload-reduction programmes examined by the literature[51] as well as the average effects of 15 job search program estimated by Card, Kluve and Weber (2015). Unfortunately, only two evaluations contain differentiated effects for specifically low-skilled and high-skilled jobseekers: Behaghel, Crépon, and Gurgand (2014), using data from France (marked by FR* on the graph), and Maibom, Rosholm and Svarer (2017), using data from Denmark (marked by DK* on the graph). The rest of the literature either do not identify the effects of programmes for different subgroups, or, estimate the heterogenous effects of the programmes for other subgroups, such as the long-term vs. short-term unemployed, men vs. women, etc. Furthermore, there is also heterogeneity in the quality of these evaluations: some use smaller vs. larger samples, randomized experiments vs. quasi-experimental approaches, estimate their effects with smaller vs. larger errors (i.e., with narrower vs. wider confidence intervals around the coefficient estimates).

Figure 2. The impacts of early intervention services



Source: own collection. See exact references and more details in Annex A, Table 9.

Note: 95% confidence intervals estimated in the original study displayed.

As *Figure 2*. demonstrates, in spite of these differences, the estimates by Behaghel, Crépon, and Gurgand (2014) and Maibom, Rosholm and Svarer (2017) fit well in the distribution of effects in the sense that they represent more-or-less the average of all the estimates. Furthermore, both papers rely on randomized controlled trials (a method which is considered the 'gold standard' in the evaluation literature) and report significant estimates. Thus, we parameterized the expected impact of our intervention package using the results of these two studies along with adding a +/- 50% interval around them. This interval sets an assumed lower- and upper-bound for the effects to define the range of potential outcomes in between. Thus, in this study, we assume that the early intervention package increases the employment probabilities of high-skilled jobseekers in the next 365 days by 5.7 +/- 2.8% (i.e., between 2.8 – 8.6 %) and the employment probabilities of low-skilled jobseekers in the next 365 days by 11.2 +/- 5.6 % (i.e., between 5.6 – 16.8%), compared to the baseline transition rates (the probabilities of finding a job) in the control group. Besides the fit of the assumed effects of the intervention in the distribution of the effects reported in the literature, using an interval

[51] Note that we chose studies which estimated the impact of programmes/pilots in Europe from the last fifteen years which most closely resembled the one proposed in our 'optimal package', and which relied on counterfactual evaluation methods. This resulted in a collection of ten studies from seven countries.

of potential effects instead of just an average number is also supported by the fact that the status quo, the institutional background, the quality of the profiling system and the actual implementation of an intervention could be very different in the case study countries from those evaluated in the literature. Thus, it is very hard to assess whether the same intervention would have an effect that is similar in magnitude in our 'case study' countries. Due to these considerations, the potential budgetary gains that we are going to report in the end of the paper are going to be intervals given by the lower-bound and the upper-bound estimates.

As the effects of the intervention are expressed in percent terms, and, the baseline transition rates differ in all countries, the effects of the intervention in percentage points (pp) are country-specific in the model. The higher is the baseline transition rate in a country, the higher the actual impact of the intervention is (see Table 3). In Denmark, for example, where transition rates are high (0.56 and 0.49), the impact of the intervention is 3.2 and 5.5 pp (on average). In Flanders, where the transition rates are low (0.27), the effects of the intervention go down to 1.5-3.0 pp (on average).

Table 3 The assumed effects of the intervention in the model

		Share of low-skilled jobseekers	Baseline transition rates to employment	Effects in pp		
				Lower bound	Average	Upper bound
Denmark	high-skilled	0.24	0.56	1.6	3.2	4.8
	low-skilled		0.49	2.7	5.5	8.2
Flanders	high-skilled	0.26	0.27	0.8	1.5	2.3
	low-skilled		0.27	1.5	3.0	4.5
Germany	high-skilled	0.25	0.49	1.4	2.8	4.2
	low-skilled		0.19	1.1	2.1	3.2
Estonia	high-skilled	0.14	0.39	1.1	2.2	3.3
	low-skilled		0.39	2.2	4.4	6.6
Slovakia	high-skilled	0.19	0.42	1.2	2.4	3.6
	low-skilled		0.2	1.1	2.2	3.4
Portugal	high-skilled	0.49	0.34	1.0	1.9	2.9
	low-skilled		0.24	1.3	2.7	4.0

Assumed effects in per cent in all countries: high-skilled jobseekers: 2.85% (lower bound), 5.7% (average), 8.6% (upper bound); low-skilled jobseekers: 5.6% (lower bound), 11.2% (average) and 16.8% (upper bound).

Although in theory, the impact of the intervention is higher for low-skilled jobseekers, the practical impact gap depends on the relative transition rate of high-skilled and low-skilled jobseekers in a country. If the high-skilled transition rate is much higher than the transition rate of the low-skilled, like in Germany (0.49 vs. 0.19) or in Slovakia (0.42 vs. 0.20), the impact of the intervention can even be lower for low-skilled jobseekers (i.e., 2.4 and 2.2 pp in Slovakia, and, 2.8 and 2.1 pp in Germany, on average).

The empirical evidence on the impact of these interventions provides marginal effects only, and, it does not take into account general equilibrium effects. However, in practice, the impacts of assigning 100 versus 10,000 jobseekers to an intervention might not affect the probability of finding a job the same way. It is possible that, beyond a certain number of programme participants, there would be such a large competition for jobs that the effect of the intervention would fade out. Although we do not have quantitative evidence on the magnitude of such general equilibrium effects, we try to incorporate

them in the model by decreasing the impacts of the intervention in parallel to increasing the number of participants. The exact details of the procedure are described in Annex A, Chapter 2.

Table 4 presents these possibilities in Denmark. On average, about 221,000 jobseekers enter registered unemployment a year (line 24) in Period 1.[52] Jobseekers, who are not assigned to neither ALMP's nor to the early intervention package, might transition to employment with a 56 - 49 percent chance by the end of the first period (line 1 and 2). For most case study countries, these baseline transition rates are estimated from a quasi-panel version of the European Labour Force Survey (2013-2015)[53], and, suffer from serious shortcomings that are detailed in Annex A.[54]

Table 4 Scenario analysis for Denmark

		Period 1	Period 2	Period 3
	Country-specific data and assumptions			
1.	Transition rate from UE to E, high-skilled[55]	0.56	0.34	0.30
2.	Transition rate from UE to E, low-skilled	0.49	0.33	0.11
3.	Share of those in ALMP, high-skilled	-	0.19	-
4.	Share of those in ALMP, low-skilled	0.19	0.19	-
5.	Cost of ALMP measures and services, EUR/person	20,198	20,198	20,198
6.	Cost of the 12-meeting early intervention package, high-skilled, EUR/person	305	305	305
7.	Cost of the 12-meeting early intervention package, low-skilled, EUR/person	509	509	509
8.	Average gross wage, high-skilled, EUR/person/month	4,538	4,538	4,538
9.	Average gross wage, low-skilled, EUR/person/month	3,102	3,102	3,102
10.	Income tax rate	0.361	0.361	0.361
11.	VAT rate as from above	0.167	0.167	0.167
12.	UE benefits, high-skilled, EUR/person/month	1,922	1,922	1,922
13.	UE benefits, low-skilled, EUR/person/month	1,922	1,922	1,922
14.	UE benefits take-up, high-skilled	0.8	0.8	0.8
15.	UE benefits take-up, low-skilled	0.6	0.6	0.6
16.	SA benefits, high-skilled, EUR/person/month	1,645	1,645	1,645
17.	SA benefits, low-skilled, EUR/person/month	1,645	1,645	1,645
18.	SA benefits take-up, high-skilled	0.2	0.2	0.2
19.	SA benefits take-up, low-skilled	0.4	0.4	0.4
	Non-country-specific assumptions			
20.	Employment effects of ALMP, high-skilled, pp	5.9	5.1	4.8
21.	Employment effects of ALMP, low-skilled, pp	8.8	7.6	7.2
22.	Employment effects of the early package, high-skilled, pp (lower bound/average/upper bound)	1.6/3.2/ 4.8		
23.	Employment effects of the early package, low-skilled, pp (lower bound/average/upper bound)	2.7/5.5/ 8.2		

[52] Originally, we intended to start the model before jobsekers enter unemployment by looking at pre-unemployment interventions for employed people who are at risk of unemployment; however, there is not enough evidence and data to conduct such analysis.

[53] Note that there might have been changes in baseline transition rates due to labour market (or PES service) reforms; or the recent positive changes in economic activity. However, due to data availability, the current situation could not be incorporated.

[54] According to our original plan, we asked the country experts (or the national PES) to provide us with such transition rates estimated by educational attainment from their individual-level administrative databases; however, we have not received any such estimates.

[55] Share of those finding a job within 1 quarter after the end of the period without intervention by education

	No. of jobseekers			
24.	Average no. of newly registered jobseekers, total	221,436		
25.	Share of low-high-skilled among newly registered jobseekers	0.24		
	Scenario: 50% high-skilled and 50% low-skilled in early activation			
26.	Share of those in early intervention in Period 1, high-skilled	50		
27.	No. of those in early intervention in Period 1, high-skilled	84,146		
28.	Share of those in early intervention in Period 1, low-skilled	50		
29.	No. of those in early intervention in Period 1, low-skilled	21,524		
30.	No. of jobseekers in ALMP, high-skilled	-	13,718	-
31.	No. of jobseekers in ALMP, low-skilled	10,097	4,782	-
32.	Rest, high-skilled	84,146	58,480	46,951
33.	Rest, low-skilled	21,525	20,386	16,499
	Costs and benefits of the scenario (million EUR)			
34.	Costs of early intervention, million EUR	37	-	-
35.	Costs of ALMPs, million EUR	204	374	-
36.	Costs of unemployment benefits, million EUR	1,920	1,034	1,602
37.	Costs of social assistance, million EUR	542	352	605
38.	Wages, million EUR	6,274	1,698	835
39.	Income tax, million EUR	2,265	613	301
40.	VAT, million EUR	670	181	89
41.	UE+SA, million EUR	2,462	1,386	2,207
42.	Balance with respect to the baseline scenario (budgetary gains), million EUR	54 million EUR		

On average, 0% of high-skilled and 19% of low-skilled jobseekers enter ALMP's in this period (line 3 and 4) in Denmark. Based on the average mid-term effects of ALMP's in general, as estimated by Card, Kluve and Weber (2015), those who enter an ALMP during the first 6 months of unemployment are 6.0 (8.8) percentage points more likely to find employment than those who do not enter (and get the usual service). Jobseekers who are assigned to early intervention, are 5.7-11.2 (+/- 50%) per cent more likely to find a job; but, this additional employment probability decreases as a function of the number of jobseekers assigned to the program due to assumed general equilibrium effects.

The early intervention package provides gains by increasing the probability of employment and decreasing the probability of staying in registered jobseeker status. The benefits of higher employment probabilities which can be readily monetised is limited. Such gains include:

- Increased amount of wages,
- Increased income tax and value added tax revenues[56], and

[56] Social security contributions are not included in the revenues because we assume that they are part of a zero-sum insurance scheme; on average, social security contributions and provided benefits are equal to zero in the long-run. There are two main reasons for this choice. First, people are assumed to get back health and pension contributions in the form of health services and pension payments, either in the form of access to more services or benefits, or in the form increased service quality. Second, the finances of the health and pension systems may be run differently in these countries: some services and benefits may be part of the system in one country but not in another, and, such contribution payments may go exclusively to the public budget in one country but they may go to multiple-pillar systems in another, and, we wanted to keep the results as comparable across countries as possible. However, as a robustness check, in two countries, in Slovakia and Portugal, we estimated the optimal allocation with adding health contributions to the public benefits as well (see Table 5.)

- Decreased amount of unemployment benefits.

However, higher employment probability may have other, non- or hardly-quantifiable short- or long-term effects that we cannot take into account in this analysis. For example, it is known from the literature that employed people have better mental health and have a lower probability to suffer from depression (van der Noord et al., 2014), thus require less health services. A reduction in unemployment rates also decreases the prevalence of criminal behaviour (Raphael and Winter-Ebmer, 2001). Furthermore, better employment prospects might induce people to invest more in their own education by raising expected future wages. Higher educational attainment, in turn, has positive effects on both the probability of working and on wages as well. Such long-term effects, and, effects on the labour market or on the whole economy, in general, are very hard to estimate and are out of the scope of this analysis.[57]

We estimate the gains from employment for 1 year throughout this exercise, although the literature documents long-term effects of labour market programs as well. However, for early activation measures, no long-term effects have been estimated in the literature yet. Furthermore, as we emphasized above, due to the large number of assumptions that we have to make, our cost-benefit balance estimates necessarily need to be interpreted in relative terms across scenarios in a country; thus, it does not matter whether we estimate benefits for 1 year or for several years.

Wages are generated in each period by jobseekers who find employment either

- with the baseline transition probabilities as indicated in line 1 and 2 if they had not participated in ALMP or early intervention but received the standard service;
- with a 5.7 (or 11.2) +/- 50% percent higher probability than the baseline if they have participated in early intervention;
- with period-related percentage points higher probabilities than the baseline if they have participated in ALMP's.

Depending on the share of available jobseekers assigned to the early intervention package in the first period, each scenario produces a number of jobseekers who find a job. The model assumes that those finding a job keep it for 12 months. We look at the benefits of the intervention from the point of view of the public budget; thus, we calculate the value of tax revenues generated by the wages of jobseekers being employed in the first year after the end of the period. Furthermore, we assume that jobseekers spend all their net income on consumption goods and services and thus generate VAT revenues. We differentiate the potential wages of high-skilled and low-skilled jobseekers, and of course, potential wages differ by countries as well. In general, the higher the wages (and the tax rates) in a country relative to the price of the early intervention, the higher share of available jobseekers will be optimal to assign to the intervention.

Jobseekers that did not transition to employment at the end of the first period will enter the second period (Column 2 in Table 4). The main factors in Period 2, and also in Period 3, are

- ALMP participation rates,
- the costs of ALMP measures, and
- the value and take-up of unemployment benefit or social assistance.

[57] Such effects are referred as general equilibrium effects. In this context, a general equilibrium effect would be, for example, if increased employment probability increased incomes, higher incomes increased aggregate market demand, which in turn would raise both prices and wages in the economy.

ALMP participation is costly. The less people find employment by the end of the first period the more will enter the second, where they might enter ALMPs with a certain, country-specific probability. The higher the share of those who enter ALMP's in a country and the more expensive these measures are, the higher the optimal share of jobseekers in early intervention will be.

The same is true for the value and take-up rates of unemployment benefits and social assistance. These mechanisms are indeed important; and, quite problematic as well. Estimating potential welfare benefit savings is difficult, because the question of benefit take-up rates remained unanswered by the country experts (or PES). For the model to properly operate, we need to know the share of jobseekers by educational attainment who are beneficiaries to unemployment benefit or social assistance, and, the average value of these benefits as well. Although the legislation and the entitlement rules of these benefits are usually public, it is not straightforward how to translate them to the actual take-up rates and benefit values of "average" high-skilled and low-skilled jobseekers. We tried to solve this problem by simplifying the rules and estimating take-up rates from various resources (see more on this in Annex A, Chapter 1).

4.3 Results

Using the data for Denmark as presented in Table 4, the model finds the above mentioned 50 (for low-skilled/disadvantaged) and 50 per cent (for high-skilled/non-disadvantaged) optimal assignment ratios, comparing to the baseline scenario. As Figure 3 shows, increasing the share of participants in the early intervention package offers gains up until the optimum point, then the relative balance starts decreasing.

Figure 3. The budgetary balance of all scenarios, Denmark (mid-range scenario)

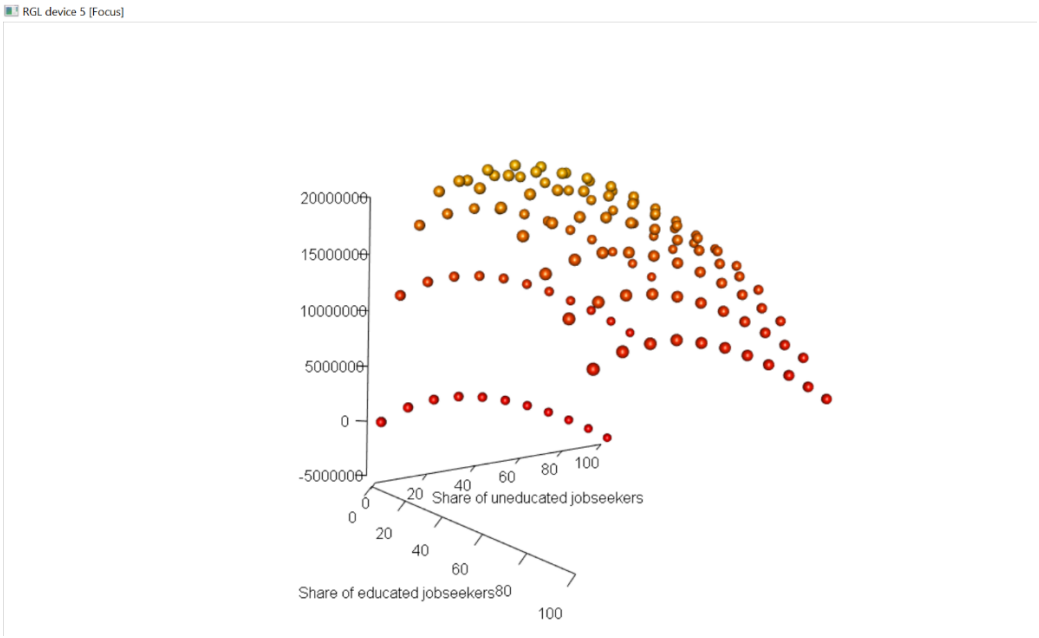


Table 5 shows the optimal packages estimated for all case study countries. As it turns out, there are quite some differences across the countries. In Slovakia, the optimal shares are 0% for both types: the early intervention package would not provide benefits. Wages are low in Slovakia, so are ALMP participation rates, unemployment benefits and take-up rates. In fact, expected wages of low-skilled jobseekers are so low that the

expected increase of wage-related tax revenues is lower than the cost of the intervention itself even at a 10-% allocation rate, when the assumed effects of the intervention are the highest (see Figure 4). This fact could potentially be counteracted by gains on spending less on ALMPs in the second and third periods; however, as ALMP costs and participation rates are low, this is not the case.

Portugal is similar to Slovakia in that ALMP's are relatively cheap and ALMP rates and UE benefits are quite low. Wages are higher than in Slovakia; however, transition rates, especially for the low-skilled, are low. Ultimately, the optimal allocation in Portugal does not differ from the optimal allocation in Slovakia that would not assign any jobseekers to the intervention.

Table 5 The optimal scenario in Denmark, Slovakia, Estonia, Portugal and Germany, pessimistic, mid-range and optimistic scenarios

	Optimal share of available low-skilled jobseekers* (%)	Optimal share of available high-skilled jobseekers* (%)	Potential gains** (thousands EUR)	Potential gains** per jobseeker*** (EUR)	Comments
Estonia	0-60-70	0-30-40	0-1,045	0-23	
Denmark	0-50-60	40-50-50	14,931-100,425	67-454	
Flanders	0-20-50	0-30-40	0-51,09	0-72	Transition rates are defined differently. For some variables we use data for Belgium.
Germany	0-0-0	0-30-40	0-238,304	0-67	Further assumptions were made about ALMP participation rates.
Portugal[58]	0-0-0	0-0-0	0-0	0-0	
Slovakia[59]	0-0-0	0-0-0	0-0	0-0	

By available jobseekers we mean those who are not allocated to ALMP's in the first 6 months of unemployment. **The interval of potential gains is constructed as the range of gains provided by the assumed lower- and upper-bounds of the effects. Potential gains are defined relative to the status quo when no jobseekers allocated to the early intervention. * Per capita gains are calculated as for the total inflow of jobseekers.*

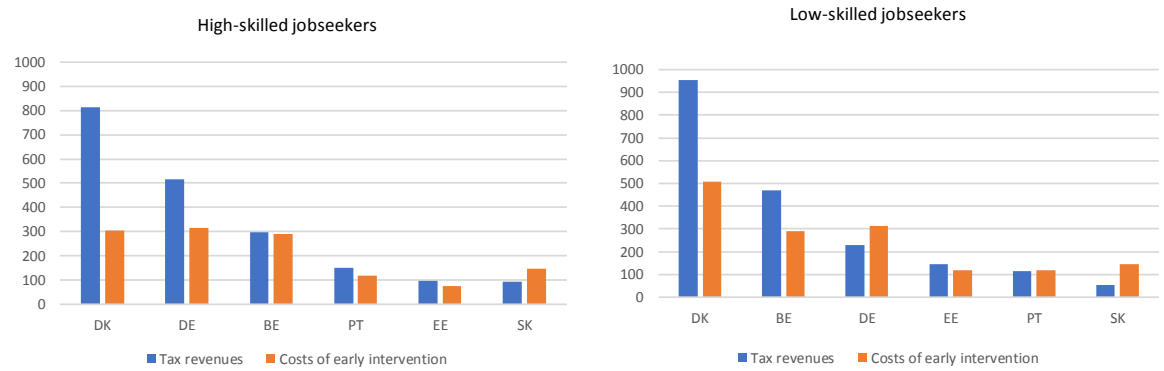
In Estonia, the early meeting package is relatively cheap as the package is close to the status quo. ALMP's, on the other hand, are relatively expensive, and ALMP participation rates are high. Even without any gains from spending less on ALMP's or unemployment benefits, the budgetary benefits of the intervention exceed their costs, at least when the

[58] Note that in Slovakia, including employees' and employers' health contributions paid after gross wages among public budget benefits would not alter the results.

[59] Note that in Portugal, including employees' and employers' health contributions paid after gross wages among public budget benefits would not alter the results for high-skilled jobseekers, and it would change the results for low-skilled jobseekers to 0-0-40 (lower-bound – average – upper bound).

participation rate is low (Figure 4). Thus, together with saving on ALMP participation and benefit/assistance payments, optimal allocations are the highest among the case study countries with 30% for high-skilled and 60% for low-skilled jobseekers in the mid-range scenario. The optimal share of low-skilled jobseekers is higher because for them the intervention is assumed to be more effective and the wage gap is low.

Figure 4. The increase of tax revenues due the early intervention package and its costs at a 10% allocation in the first period (mid-range scenario, EUR per person)



*The figure compares the increase of tax revenues due to intervention per participant to its per-capita costs.

Germany and Denmark are similar in that ALMP's are expensive, ALMP participation rates are high, and transition rates are high as well, especially in Denmark in the first period. As Figure 4 suggests, tax gains alone are much higher in Denmark than the costs of the package. This is also the case in Germany for high-skilled jobseekers, but not for the low-skilled: as the transition rates of low-skilled jobseekers are much lower in Germany, expected tax revenues are lower than the costs of the package.[60] Thus, despite the similarities in their labour market potential, the optimal allocation is higher in Denmark: 50% of low-skilled and 50% of high-skilled available jobseekers should be allocated to the early intervention package to maximize the gains of the public budget. In Germany, the optimal mid-range scenario assigns 30% of high-skilled and no low-skilled jobseekers to the intervention. If we assumed the early intervention to be very effective (upper-bound), the optimal allocation for high-skilled jobseekers in Germany would go up to 40%. Comparing these two countries, the higher levels of unemployment benefits and social assistance as well as the higher wages in Denmark make the budgetary effects of the intervention more positive.

In Flanders, wages are high, ALMP's are moderately costly, and the wage gap between the high and low high-skilled is small. Thus, the optimal allocation includes 20% of available low-skilled and 30% of high-skilled jobseekers.

In general, the model suggests that given all the assumptions that we had to make, from a short-time budgetary point of view,

- optimal assignment ratios given by the model are higher if the 12-meeting intervention is close to the status quo, i.e. it is relatively cheap (while we do

[60] More in detail for Germany, there is a need counselling for low-skilled employees, which may perhaps lead to a result in the long term. With highly qualified employees, the prospects for placement are often better and counselling and placement lead to the desired integration more quickly.

not have enough information to adjust the expected effects upon this distance);

- optimal assignment ratios given by the model are higher if baseline transition rates and wages are high, i.e. the expected value of incremental wages is high relative to the cost of the intervention;
- the optimal assignment ratio may be higher for both low-skilled and high-skilled jobseekers, it depends on the ratio of wages and transition and take-up rates;
- the optimal assignment ratio is not 100% - there is indeed a trade-off between potential gains and deadweight loss.

4.4 Discussion

In this section we briefly discuss the main strengths and weaknesses of our results, along with several suggestions about how such an analysis could be improved in a future study. First, the empirical evidence on the impacts of early intervention measures and services in the literature is quite narrow. As we mentioned before, it is impossible to predict how an intervention would work if transferred to another country, at another point in time, in another institutional setting. We handle this uncertainty by estimating a lower-bound, an average and an upper-bound scenario in all countries; however, the lower and upper bounds of these scenarios might not be low or high enough to cover all potential outcomes. In an ideal world, such analyses would be based on the evaluation of pilot programs run in all (or at least some) case study countries.

Second, our model is based on several assumptions, data points and data sources, and our results might be very sensitive to some of them. Such key parameters of the model are baseline transition rates, the probabilities of exiting unemployment and entering employment. We measure the effects of the early intervention package in percent; for example, for high-skilled jobseekers, we assume a 5.7 (+/- 50%) percent effect. In a country where the baseline transition rate is 20%, 0.2*0.057=1.14 more persons would find a job due to the intervention, while in a country where the baseline transition rate is 40% the same effect would be 0.4*0.057=2.28, out of every 100 jobseekers. Thus, the budgetary effects are going to be larger for countries that already "do better". On the other hand, measuring the effects of the intervention in percentage points instead of percentages would introduce, the same effects measured as the number of extra persons finding a job in all countries. In the example above, a flat 3 percentage point effect (which is the effect corresponding to the 5.7% impact in the source study) would mean that in both countries 3 more jobseekers would find employment (out of a 100), independently from the fact that without the intervention, jobseekers were on average twice as likely to find a job in one county relative to the other. In this case, the general conditions of the labour market (or the general effectiveness of the employment institutions) would not differentiate the potential effects of the intervention. Our choice of measurement represents that we find the first version (i.e., measuring the effects in per cent and this allowing the effects somewhat capture between-country differences) more intuitive; however, one could potentially argue to the other direction as well.

In the first period of the model, the only sources of budgetary gains are income and VAT tax revenues generated by the intervention through its effect on the probability of employment. In the second and third period of the model, gains come from two sources: the value of saved unemployment and social benefits, and, from the lower probability of participation in ALMP programmes. The costs of ALMPs and ALMP participation rates are sensitive parameters in the model as well. Due to the lack of any other sources, we used aggregate data on the total yearly amounts spent on ALMP's and the number of

participants, published by Eurostat, and simply calculated per capita ALMP costs as the ratio of these two numbers. This calculation implicitly assumes that 1) ALMP's last about 6-12 months, and 2) ALMP's have the same length in all case study countries. Although we have not found quantitative evidence on the average lengths of ALMP measures, some qualitative evidence suggests that ALMP's are probably much shorter in Denmark, for example, than in Slovakia. Thus, if this is true, in countries where ALMP's are longer, we underestimate, and where they are shorter, we overestimate the costs of ALMP's, and, this probably affects the choice of the optimal scenario as well.[61]

Third, we had to make even more assumptions that we originally planned due to the lack of available data. In many cases we had not enough information to differentiate the data of high-skilled and low-skilled jobseekers, and also, the data of those in different stages of their unemployment spells. Access to finer-level administrative data as opposed to the aggregates that we had to use in many cases would provide an enormous potential improvement to a data-sensitive exercise as this study.

Fourth, any conclusions drawn about the relative efficiency of ALMP's versus early activation based on this study must be fundamentally wrong. This study does not examine neither the relative effectiveness nor the relative efficiency of early intervention programmes versus ALMP's. On the one hand, the evidence on the effectiveness of ALMP's, and especially on the medium- and long term, are examined and established much more in depth (see for example Card, Kluve and Weber, 2015). On the contrary, we have not found even one paper looking at the long-term effects of early labour market services. Thus, we simply have no information about whether their effects fade out or not. On the other hand, this study uses very rough information on the costs of both early activation services and ALMP's. Unfortunately, we had no access to such local data in any countries, so we tried to come up with all cost-related items based on publicly available aggregate information. Comparing our estimates about the costs of early interventions to those of Youth Guarantee services, such as light interventions (guidance), our estimates for the (unit) costs of early intervention services are significantly lower. In Eurofound (2015), for example, the costs of guidance estimated to be between 300 and 700 EUR per person, while our estimates range from 70 to 500 EUR per person.

[61] Note that similar issues were encountered in Eurofound (2015) for the calculation of unit costs of interventions in the Youth Guarantee programme, where the authors could not differentiate between the costs of different types of ALMPs.

5 Conclusion

The counterfactual evaluation literature reviewed in this study contains no convincing evidence that assigning active measures and training programmes either prior to registration as unemployed or early, during the first 4-6 months of an unemployment spell is more effective than providing them later during the unemployment period. By contrast, we found that intensive counselling and meetings between the unemployed person and their caseworker in the early stages of unemployment is likely to be a cost-effective way of speeding up both disadvantaged and non-disadvantaged persons' re-integration into the labour market.

Although the literature clearly documents that early activation services are effective, there might be differences in their relative cost-efficiency among the European countries. With the help of a highly stylized scenario analysis, we conducted case studies for six PES in order to examine the relative short-term cost-efficiency of early intensive services. While early services are potentially effective everywhere, there are differences among these countries in whether they would already bring public budgetary gains in the short run. We employ a simplified budgetary model that approximates the immediate costs and benefits due to the allocation of certain shares of jobseekers to a package of intensive early activation services and compares the short-term gains of each allocation scenario. The model follows jobseekers through the first two years of unemployment and takes into account unemployment-related costs and income and VAT-tax gains as a result of being more likely to find employment thanks to the intervention. The potential short-term effects of the early intervention package on the probability of employment are set based on a literature review, including +/- 50% intervals around the median effects in order to accommodate the possibility of positive or negative country-specific deviations. Note that such an exercise can only quantify short term labour market impacts as there has not been evidence on the long term effects of early interventions in the literature yet.

Under our assumptions, the results suggest that there is a trade-off between early activation and deadweight loss: it is not optimal to assign all jobseekers to an intensive early intervention, especially if general equilibrium effects are taken into consideration. Considering the potential relative short-term gains of the public budget, assuming that the intervention raises the probability of employment for one year (only) the optimal allocations would provide anything between 0 to a couple hundred million Euros per year (or zero to 450 EUR per jobseeker). The differences between the countries are due to the number and the composition of jobseekers in a country, the features of the labour market, and quite importantly, our modelling assumptions. The most important of these is that our stylized model captures short-term benefits only. However, while there is hardly any empirical literature on the long-term effects of early interventions, they might have long-term effects, and also non-direct, not-ready-to-be-monetized secondary effects that are realized outside the labour market (i.e., health or educational effects). If we could quantify the employment effects of the interventions beyond one year, as well as long-term secondary effects, the gains are likely to be higher. Please bear in mind that our results are sensitive not only to the imposed parameters of the model, including the expected impact of early interventions; but also to the quality of data used, and as such should be treated with utmost caution.

Nevertheless, there are a few tentative conclusions which can be drawn from our scenario analysis. First, given that early intensive counselling and meetings are likely to be more effective for disadvantaged jobseekers, it is advisable to assign such an early

intervention to a large share (up to sixty percent) of those deemed further away from the labour market. Second, from the point of view of the short-term gains of the public budget, enrolling a large share of non-disadvantaged jobseekers in the early intervention programme might also yield significant returns in countries where the gap in potential earnings (and unemployment related benefits) of low- and high-skilled persons is large. Third, while the costs of the early intensive counselling and meeting package is relatively low, its immediate cost-effectiveness depends on the labour market conditions of the countries. Its budgetary gains are higher in countries where the labour market is more efficient and unemployed jobseekers find jobs easier, while in countries with general labour market problems the introduction of early services is not enough, supplementary measures might also be needed to decrease unemployment. However, even in these countries, the currently favourable economic conditions might offer an especially right time to implement such early intervention packages, as strategies aiming to increase the labour supply of non-employed have been found to be particularly effective in times of economic growth.

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Annex A

Description of country-specific indicators used in the CBA model

The assumed costs of the 12-meeting early intervention package

For all countries, the costs of the intervention package are estimated vis-à-vis the status quo, which is the current number of meetings for educated and uneducated jobseekers in the first 6 months of unemployment. The extra meeting time added by the intervention is the difference between 12 meetings and the status quo. The length of one meeting is set to 30 minutes, and we assume that it requires the same preparation time from the caseworkers. Caseworkers' wages are proxied by the gross hourly labour costs of those working in the *Services of the business economy* NACE Rev. 2., as reported by the Eurostat (see Table 1). Furthermore, we assume a 20% overhead rate for additional technical and institutional costs. Thus, for Denmark, for example, the cost of the package for educated jobseekers is assumed to be 6*1*42.4*1.2= 305.3 EUR/jobseeker, and, for uneducated jobseekers, it is assumed to be 10*1*42.4*1.2= 508.8 EUR/jobseeker.

Table 1. ***The assumed costs of the early intervention package in the case study countries***

Country	Status quo	Extra meetings	Unit labour costs (EUR/hour)	Total cost of the package (EUR per jobseeker)
Estonia	E: 6*20 min UE: 6*30 min	6*40 min 6*30 min	10.3	6*1*10.3*1.2=74.2 6*1*10.3*1.2=74.2
Slovakia	E: 3*30 min UE: 3*30 min	9*30 min 9*30 min	13.4	9*1*13.4*1.2=144.7 9*1*13.4*1.2=144.7
Denmark	E: 6*30 min UE: 2*30 min	6*30 min 10*30 min	42.4	6*1*42.4*1.2=305.3 10*1*42.4*1.2=508.8
Portugal	E: 3*30 min UE: 4*30 min	9*30 min 8*30 min	14.0	9*1*14.0*1.2=151.2 8*1*14.0*1.2=134.4
Germany	E: 3*30 min UE: 3*30 min	9*30 min 9*30 min	29.2	9*1*29.2*1.2=315.4 9*1*29.2*1.2=315.4
Flanders	E: 6*30 min UE: 6*30 min	6*30 min 6*30 min	40.5	6*1*40.5*1.2=291.6 6*1*40.5*1.2=291.6

Sources: Eurostat, own collection. E: educated jobseekers, UE: uneducated jobseekers.

Number of newly registered educated and uneducated jobseekers

The scope of the model covers the newly registered unemployed, aged 25-54, in all case study countries. In Flanders, the number of newly registered unemployed, which is the 2016 total number of entrants into the Unemployment Insurance scheme who had at least one unemployment spell in 2016 but did not have an unemployment spell in 2015, is retrieved from the website of the Federal Employment Office.[62]

In Germany, the number of newly registered unemployed is the 3-year average of registered jobseeker with job-seeking duration less than 1 month. Both the number of newly registered unemployed and the share of the low-educated among them are the average of 2013-2015 and comes from Statistics of the Employment Agency (Bundesagentur für Arbeit) as provided by the country expert.

[62] Federal Employment Office. Chômeurs complets indemnisés demandeurs d'emploi. Retrieved from http://www.onem.be/sites/default/files/assets/publications/Rapport_Annuel/2016/Rapport_annuel_FR_Vol2.pdf

In Denmark, the number of newly registered unemployed is the 2014-2016 average number of unemployment spells that started in a given year and lasted for at least one week, by education.[63]

In Estonia, the number of newly registered unemployed is the 2013-2015 average sum of monthly average numbers of newly registered unemployed of in the Unemployment Insurance Fund provided by the Estonian PES.

In Portugal[64] and Slovakia[65], the number of newly registered unemployed is the 2013-2015 average number of newly registered unemployed of all ages, as well as the share of low educated in Slovakia, are retrieved from the website of Public Employment Service of the respective country.

In Flanders, Denmark, Estonia and Portugal, the share of the low educated unemployed is estimated based on the education composition of the newly registered jobseekers in the EU-LFS in years 2013-2015. Newly registered jobseekers were defined as those who are unemployed and looking for a job for at most 6 months.

Transition rates from unemployment to employment

Baseline transition rates from registered unemployment to employment capture the share of jobseekers aged 25-54 in factual unemployment finding a job on the primary labour market without entering ALMP measures while being unemployed.

For Denmark, Estonia and Portugal, transition rates are estimated from a (quasi-)panel version of the European LFS (2013-2015). Due to technical reasons, we estimated the share of registered unemployed aged 25-54 who find a job within one quarter, and then re-scaled these quarterly transition rates based on data-driven expert judgment to 6-months transition rates. As the LFS has no information on ALMP participation, transition rates are estimated on the total sample of the unemployed in the data, including potential ALMP participants as well. The estimated rates are disaggregated by educational attainment and the duration of unemployment spells.

The estimation of transition rates consists of two stages. First, we identified registered unemployed individuals in the initial quarter and tried to link them to their data in the subsequent quarter. Linking individuals (or rather, households) across subsequent waves of the EU LFS is not straightforward, and in some countries, like DE or BE, it is not even possible. In countries with meaningful household panel identifiers across at least some consecutive quarters, we combined them with household-level features (education, etc.) to make sure that we link observations to the same households correctly. Then, as a second step, we used probit models in the fashion of Kiiver and Espelage (2016) to estimate predicted employment probabilities by education and unemployment duration.[66]

In Slovakia, transition rates are provided by the PES, aggregated by education and the duration of the unemployment spell. In Flanders and Germany, transition rates are estimated based on the published data of the National Public Employment Office (Office

[63] Labour market data portal. Early activation. Retrieved from http://www.jobindsats.dk/
[64] Institute of Employment and Training. Statistics Division. Retrieved from https://www.iefp.pt/estatisticas
[65] Central Office of Labour, Social Affairs and Family. Unemployment – Monthly Statistics. Retrieved from http://www.upsvar.sk/statistiky/nezamestnanost-mesacne-statistiky.html?page_id=1254
[66] Kiiver, H. and Espelage, F. (2016). The Use of Regression Models in Labour Market Flow Statistics. Paper presented at the European Conference on Quality in Official Statistics (Madrid, 2016)

National de l'Émploi)[67] and Statistics of the Employment Agency (Bundesagentur für Arbeit)[68], respectively. In Germany, yearly transition rates are published that we re-scaled to 6-months rates.

In Flanders, we had no access to outflow data by educational attainment hence we use average transition rates for both types of jobseekers in the model. Furthermore, published transition rates are not comparable with transitions rates estimated in other countries. In particular, in Flanders, transition rates refer to the share of those who have been in employment for exactly a year in a particular period, if they were unemployed right before the year started, as a percentage of the unemployed stock a year ago. Other countries measure only the fact that a jobseeker enters employment, independently from the length of employment. Thus, transition rates in Flanders tend to be lower than in the rest of our case study countries.

Share of jobseekers in ALMP measures, costs of ALMP's

The share of jobseekers in ALMP measures captures the percentage of jobseekers aged 25-54 who participate in ALMP's, by education and the duration of unemployment, in years 2013-2015.

In Flanders, we use the ALMP participation rates that are published by the National Employment Office.[69]

In Germany, ALMP participation rates come from the country expert and from the published data of the Statistics of the Employment Agency (Bundesagentur für Arbeit).[70] In Portugal, data were provided by the country expert.

In Denmark, we use the data of Eurostat.[71] Note that in Denmark, the educated unemployed are not entitled to ALMP measures during the first 6 months of their unemployment spell.

In Estonia, shares of jobseekers' data are retrieved from the website of the Estonian Public Employment Service.[72] In Slovakia, data are provided by the PES.

Costs of regular measures and services are the 2013-2015 average annual expenditure on ALMP measures per participant in Euros.[73] The ALMP measures cover support for unemployed jobseekers such as training, employment incentives, supported employment and rehabilitation, direct job creation and start-up incentives. It is calculated by dividing

[67] National Public Employment Office (2016). Labour Market Indicators and Changes in Benefits [Indicateurs du Marché du Travail et Évolution des Allocations], Vol. 2. Retrieved from http://www.onem.be/sites/default/files/assets/publications/Rapport_Annuel/2016/Rapport_annuel_FR_Vol2.pdf

[68] Federal Employment Agency (2016). Labour Market 2016, Special Issue No. 2. Retrieved from https://statistik.arbeitsagentur.de/Statistikdaten/Detail/201612/ama/heft-arbeitsmarkt/arbeitsmarkt-d-0-201612-pdf.pdf

[69] National Public Employment Office (2016). Labour Market Indicators and Changes in Benefits [Indicateurs du Marché du Travail et Évolution des Allocations], Vol. 2. Retrieved from http://www.onem.be/sites/default/files/assets/publications/Rapport_Annuel/2016/Rapport_annuel_FR_Vol2.pdf . Note that these rates come from the analysis of nine major programmes.

[70] Federal Employment Agency (2016). Labour Market 2016, Special Issue No. 2. Retrieved from https://statistik.arbeitsagentur.de/Statistikdaten/Detail/201612/ama/heft-arbeitsmarkt/arbeitsmarkt-d-0-201612-pdf.pdf

[71] Eurostat. Labour Market Policy database. Retrieved from http://ec.europa.eu/eurostat/web/labour-market/labour-market-policy/database

[72] Estonian Unemployment Insurance Fund. Statistics and Analysis Division. Retrieved from https://www.tootukassa.ee/eng/content/about-tootukassa/statistics

[73] Please note that the typical ALMP in Denmark lasts six months.

the total expenditure on all ALMP measures by the total number of participants.[74] Note that these data are not available by neither unemployment duration nor education level. In Flanders, we use the data of Belgium.

Unemployment insurance/benefit/assistance payments, take-up rates

Originally, we aimed at using actual average benefit payment data by education and length of unemployment, estimated by the country experts or the PES from administrative data. However, we were not successful in getting such data from any countries, so we had to construct "average" benefit payment and take-up schemes to use in the model from the information and rules that are publicly available. We are highly aware of the fact that such "average" schemes involve much over-simplification; however, we had no alternatives available. Furthermore, in most cases, it was not possible to differentiate benefit amounts and take-up rates by educational attainment.

For Flanders, we use general Belgian data. The Belgian unemployment insurance scheme provides insured unemployed jobseekers with an unemployment benefit that decreases with the unemployment spell from 65% of the previous wage to a monthly minimum. The planned entitlement period is unlimited; however, in fact it depends on the category to which the unemployed person belongs to: the maximum duration is 1.5 times the average duration of unemployment for that particular category. Unemployed jobseekers who do not have access to unemployment benefits can claim social assistance benefits on a means-tested basis. The amount of social assistance benefit depends on the household type. When calculating the amount of benefit that an unemployed will receive, the resources of other household members can be also taken into consideration.[75] The data on the average amount of unemployment benefit for recipients who come from employment in Belgium are retrieved from the website of the National Employment Office.[76] The average social assistance benefit in Belgium is the weighted average of three types of households and comes from the European Commission report.[77] We assume the full take-up rate of benefits: those unemployed jobseekers who are entitled to unemployment benefit receive it in all three periods, and those who cannot claim it receive social assistance in all three periods too. The take-up rate of benefits in Flanders is estimated using the EU-LFS data.

The German unemployment benefit system is somewhat complicated. Registered unemployed jobseekers younger than 50 years of age who have contributed to the social security system for at least 360 days in the last two years receive unemployment insurance (UB1) for 12 months. The replacement rate is 60% of the previous salary. Those unemployed jobseekers that do not qualify for UB1 and who are able to work[78] are entitled to receive means-tested UB2 benefits for the next 24 months. Persons who live together with a person eligible for UB2 (i.e. partners, parents, children) can also claim UB2 benefits. The entitlement period for UB2 is unlimited. The average amount of monthly unemployment benefit/unemployment assistance is calculated by dividing 2013-

[74] Eurostat. Labour Market Policy database. Retrieved from http://ec.europa.eu/eurostat/web/labour-market/labour-market-policy/database

[75] European Commission (2017). Your Social Security Rights in Belgium. Directorate-General for Employment, Social Affairs and Inclusion (Brussels).

[76] National Public Employment Office (2016). Labour Market Indicators and Changes in Benefits [Indicateurs du Marché du Travail et Évolution des Allocations], Vol. 2. Retrieved from http://www.onem.be/sites/default/files/assets/publications/Rapport_Annuel/2016/Rapport_annuel_FR_Vol2.pdf

[77] European Commission (2017). Your Social Security Rights in Belgium. Directorate-General for Employment, Social Affairs and Inclusion (Brussels)

[78] Persons who can work at least 3 hours per day under the normal labour market conditions.

2015 average expenditure on unemployment insurance/unemployment assistance by the 2013-2015 average number of unemployment benefit/unemployment assistance recipients.[79] We assume that UB1 is paid maximum for 12 months, and if still unemployed after 12 months, a jobseeker might receive UB2. The take-up rate of UB1 and UB2 is estimated using the data supplied by the country expert, data published by the Bundesagentur für Arbeit[80], and the EU-LFS. The take-up of the benefits is not 100% - on average, 12% of registered unemployed do not receive benefits.

In Denmark, employees who are members of an unemployment insurance fund (and who meet the requirements) are entitled to receive daily cash benefits for five days per week for a period of 2 years. The replacement rate is maximum 90% of previous weekly earnings. Unemployment assistance benefits are granted to unemployed persons who have exhausted their right to receive unemployment benefits after two years or unemployed persons who are not members of unemployment insurance fund and do not have any other source of income for unlimited period. The amount of the benefit depends on jobseeker's age and whether s/he has children or not. The average amount of monthly unemployment benefit/unemployment assistance is calculated by dividing 2013-2015 average expenditure on unemployment insurance/unemployment assistance by the 2013-2015 average number of unemployment benefit/unemployment assistance recipients and they do not vary with unemployment duration.[81] Unemployment insurance take-up rate is the 2013-2015 average self-reported share of registered unemployed aged 25-54 who received benefits or assistance by education and is calculated based on EU-LFS yearly data. We assume that everyone who reported that they received benefits or assistance received unemployment benefits. Given that in Denmark no registered person is without some form of cash benefit, we assume that all persons no on UI benefits receive Social Assistance.

In Estonia, registered unemployed jobseekers who have been covered by the compulsory national insurance scheme for at least 12 months during the previous 3 years and who comply with the requirements of the PES (participating in job mediation activities, attending meetings with a job counsellor) are entitled to unemployment insurance benefits for a maximum period of 360 days depending on the duration of actual contributory period of a particular jobseeker (typically, 270 days). Replacement rate is up to 50% of the previous average salary depending on how long a person has been unemployed. Unemployed jobseekers who do not meet the requirements of the unemployment insurance scheme or who are not eligible to receive unemployment insurance benefit anymore can claim means-tested flat rate state unemployment assistance benefit paid for up to two hundred and seventy days. When the recipients exhaust both unemployment insurance and unemployment assistance benefits, they can claim subsistence benefit. In our model, we pooled all recipients who took up unemployment insurance and unemployment assistance benefits together and assumed that they are entitled to the benefit for up 12 months and receive subsistence benefit if unemployed for 12 months or longer. We also assumed full take-up of either unemployment benefit or subsistence benefit in months 0-12 of unemployment spell;

[79] Eurostat. Labour Market Policy Database. Retrieved from http://ec.europa.eu/eurostat/web/labour-market/labour-market-policy/database

[80] Federal Employment Agency (2016). Labour Market 2016, Special Issue No. 2. Retrieved from https://statistik.arbeitsagentur.de/Statistikdaten/Detail/201612/ama/heft-arbeitsmarkt/arbeitsmarkt-d-0-201612-pdf.pdf

[81] Eurostat. Labour Market Policy Database. Retrieved from http://ec.europa.eu/eurostat/web/labour-market/labour-market-policy/database

after this period the take-up of subsistence benefits is not 100% Both the 2013-2015 average monthly benefits and take-up rates are retrieved from the website of the PES.[82]

In Portugal, registered jobseekers covered by the unemployment insurance system are qualified for unemployment benefits for up to 18 months. The replacement rate is 65% of the reference wage and maximum three times the highest minimum monthly wage. There is also means-tested unemployment assistance benefit granted to registered unemployed jobseekers who have exhausted their right or who do not qualify to receive unemployment insurance benefits. Entitlement period maximum 38 months. In case a person has exhausted the right to receive the unemployment insurance benefits, the entitlement benefit for unemployment assistance is 9 months (18 months of UI + 9 months of SA). The amount paid to a single person is 80% of Social Support Indexation. An average amount of monthly unemployment benefit/unemployment assistance is calculated by dividing 2013-2015 average expenditure on unemployment insurance/unemployment assistance by the 2013-2015 average number of unemployment benefit/unemployment assistance recipients.[83] We assume that the amount of the unemployment benefit paid to long-term unemployed jobseekers (Period 4) is the average of unemployment assistance benefit and unemployment insurance benefit paid to non-long term unemployed jobseekers (Period 2 and 3). We also assume full take-up of unemployment and social assistance benefits in all periods based on EU-LFS 2013-2015.

In Slovakia, registered unemployed jobseekers who are covered by compulsory unemployment insurance scheme are eligible for unemployment insurance benefit for the first six months of unemployment spell. If a jobseeker is unemployed for longer than 6 months, s/he can claim social assistance benefit. Social assistance scheme is provided to unemployed jobseekers who have income below the statutory subsistence minimum for unlimited duration (i.e. until the person's income does not reach the level of subsistence level). The amount of social assistance benefit depends on household type. The amount of unemployment benefit is provided by the PES and its take-up rate estimated based on EU-LFS 2013-2015 by education. The social assistance benefit and its take-up rate by unemployment duration and education are extracted from the study of Hidas et al. (2016).[84]

Wages, tax rates

In all countries, average gross wages are mean monthly earnings in 2014 of an employee who works in a company with ten or more employees in all economic activities except public administration, defence and compulsory social security for educated and uneducated unemployed jobseekers.[85] Because data are disaggregated by low, medium and high education, average gross wage of educated is the average gross wage of medium and high-educated persons weighted by the total number of medium and high-educated newly registered unemployed.

[82] Estonian Unemployment Insurance Fund. Statistics and Analysis Division. Retrieved from https://www.tootukassa.ee/eng/content/about-tootukassa/statistics

[83] Eurostat. Labour Market Policy Database. Retrieved from http://ec.europa.eu/eurostat/web/labour-market/labour-market-policy/database

[84] Hidas, S., Vaľková, K. & Harvan, P. (2016). Veľa práce na úradoch práce: efektivita a účinnosť slu žieb zamestnanosti. [A lot of work at the labour offices: effectiveness and efficiency of employment services]. Október 2016, Inštitút Finančnej politiky. [October 2016, Institute for Financial Policy]. Ekonomická analýza 40

[85] Eurostat (2014). Structure of Earnings Survey. Retrieved from http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Structure_of_earnings_survey_(SES)

Income tax rate is the 2013 average personal income tax rate at average wage for single person with no children. VAT tax rate as from above is calculated as 2013 standard VAT tax rate in % divided by the sum of the VAT tax rate (%) and 100, multiplied by 100.[86]

[86] OECD. Tax database. Retrieved from http://www.oecd.org/tax/tax-policy/tax-database.htm#VATTables

Table 2. Country-specific data and assumptions, Flanders (Belgium)

	Period 1	Period 2	Period 3	Source of country-specific data
Country-specific data and assumptions				
Transition rate from UE to E, educated[87]	0.27	0.27	0.17	PES report
Transition rate from UE to E, uneducated	0.27	0.27	0.17	PES report
Share of those in ALMP, educated	0.09	0.09	0.09	PES report
Share of those in ALMP, uneducated	0.09	0.09	0.09	PES report
Cost of ALMP measures and services, EUR/person	6530	6530	6530	Eurostat
Cost of the 12-meeting early intervention package, educated, EUR/person	291.6			Eurostat
Cost of the 12-meeting early intervention package, uneducated, EUR/person	291.6			Eurostat
Average gross wage, educated, EUR/person/month	3136	3136	3136	Structure of Earnings Survey
Average gross wage, uneducated, EUR/person/month	2519	2519	2519	Structure of Earnings Survey
Income tax rate	0.424	0.424	0.424	OECD
VAT rate as from above	0.17	0.17	0.17	OECD
UE benefits, educated, EUR/person/month	1047	1047	1047	PES report
UE benefits, uneducated, EUR/person/month	1047	1047	1047	PES report
UE benefits take-up, educated	0.85	0.85	0.84	EU-LFS 2013-2015
UE benefits take-up, uneducated	0.83	0.83	0.81	EU-LFS 2013-2015
SA benefits, educated, EUR/person/month	826	826	826	European Commission report
SA benefits, uneducated, EUR/person/month	826	826	826	European Commission report
SA benefits take-up, educated	0.15	0.15	0.16	EU-LFS 2013-2015
SA benefits take-up, uneducated	0.17	0.17	0.19	EU-LFS 2013-2015
Non-country specific assumptions				
Employment effects of ALMP, high-skilled, pp	5.9	5.1	4.8	Card et al (2015) and Maibom et al. (2017)
Employment effects of ALMP, low-skilled, pp	8.8	7.6	7.2	Card et al (2015) and Behaghel et al. (2014)
Employment effects of the early package, high-skilled, pp (lower bound/average/upper bound)	0.8/1.5/2.3			Maibom et al. (2017)
Employment effects of the early package, low-skilled, pp (lower bound/average/upper bound)	1.5/3.0/4.5			Behaghel et al. (2014)
No. of jobseekers in each type				
Average no. of newly registered jobseekers, total	70610			Federal Employment Office
Share of low-educated among newly registered jobseekers	0.26			EU-LFS 2013-2015

[87] Share of those finding a job within 1 quarter after the end of the period without intervention by education

Table 3. Country-specific data and assumptions, Denmark

	Period 1	Period 2	Period 3	Source of country-specific data
Country-specific data and assumptions				
Transition rate from UE to E, educated[88]	0.56	0.34	0.30	EU-LFS 2013-2015
Transition rate from UE to E, uneducated	0.49	0.33	0.11	EU-LFS 2013-2015
Share of those in ALMP, educated	-	0.19	-	Eurostat
Share of those in ALMP, uneducated	0.19	0.19	-	Eurostat
Cost of ALMP measures and services, EUR/person	20198	20198	20198	Eurostat
Cost of the 12-meeting early intervention package, educated, EUR/person	305			Eurostat
Cost of the 12-meeting early intervention package, uneducated, EUR/person	509			Eurostat
Average gross wage, educated, EUR/person/month	4538	4538	4538	Structure of Earnings Survey
Average gross wage, uneducated, EUR/person/month	3102	3102	3102	Structure of Earnings Survey
Income tax rate	0.361	0.361	0.361	OECD
VAT rate as from above	0.167	0.167	0.167	OECD
UE benefits, educated, EUR/person/month	1922	1922	1922	Eurostat
UE benefits, uneducated, EUR/person/month	1922	1922	1922	Eurostat
UE benefits take-up, educated	0.8	0.8	0.8	EU-LFS 2013-2015
UE benefits take-up, uneducated	0.6	0.6	0.6	EU-LFS 2013-2015
SA benefits, educated, EUR/person/month	1645	1645	1645	Eurostat
SA benefits, uneducated, EUR/person/month	1645		1645	Eurostat
SA benefits take-up, educated	0.2	0.2	0.2	EU-LFS 2013-2015
SA benefits take-up, uneducated	0.4	0.4	0.4	EU-LFS 2013-2015
Non-country specific assumptions				
Employment effects of ALMP, high-skilled, pp	5.9	5.1	4.8	Card et al (2015) and Maibom et al. (2017)
Employment effects of ALMP, low-skilled, pp	8.8	7.6	7.2	Card et al (2015) and Behaghel et al. (2014)
Employment effects of the early package, high-skilled, pp (lower bound/average/upperr bound)	1.6/3.2/ 4.8			Maibom et al. (2017)
Employment effects of the early package, low-skilled, pp (lower bound/average/upper bound)	2.7/5.5/ 8.2			Behaghel et al. (2014)
No. of jobseekers in each type				
Average no. of newly registered jobseekers, total	221436			Labour Market Portal
Share of low-educated among newly registered jobseekers	0.24			EU-LFS 2013-2015

[88] Share of those finding a job within 1 quarter after the end of the period without intervention by education

Table 4. Country-specific data and assumptions, Germany

	Period 1	Period 2	Period 3	Source of country-specific data
Country-specific data and assumptions				
Transition rate from UE to E, educated	0.49	0.49	0.13	PES published data
Transition rate from UE to E, uneducated	0.19	0.19	0.09	PES published data
Share of those in ALMP, educated	0.2	0.2	0.234	Country expert, PES published data
Share of those in ALMP, uneducated	0.22	0.22	0.234	Country expert, PES published data
Cost of ALMP measures and services, EUR/person	6532	6532	6532	Eurostat
Cost of the 12-meeting early intervention package, educated, EUR/person	315.36			Eurostat
Cost of the 12-meeting early intervention package, uneducated, EUR/person	315.36			Eurostat
Average gross wage, educated, EUR/person/month	3136	3136	3136	Structure of Earnings Survey
Average gross wage, uneducated, EUR/person/month	1833	1833	1833	Structure of Earnings Survey
Income tax rate	0.394	0.394	0.394	OECD
VAT rate as from above	0.159664	0.159664	0.159664	OECD
UE benefits, educated, EUR/person/month	1439.473	1439.473	1439.473	Eurostat
UE benefits, uneducated, EUR/person/month	1439.473	1439.473	1439.473	Eurostat
UE benefits take-up, educated	0.52	0.52	0	Country expert, PES, EU-LFS 2013-2015
UE benefits take-up, uneducated	0.3	0.3	0	Country expert, PES, EU-LFS 2013-2015
SA benefits, educated, EUR/person/month	431.4412	431.4412	431.4412	Eurostat
SA benefits, uneducated, EUR/person/month	431.4412	431.4412	431.4412	Eurostat
SA benefits take-up, educated	0.36	0.36	0.9	Country expert, PES, EU-LFS 2013-2015
SA benefits take-up, uneducated	0.6	0.6	0.9	Country expert, PES, EU-LFS 2013-2015
Non-country specific assumptions				
Employment effects of ALMP, high-skilled, pp	5.9	5.1	4.8	Card et al (2015) and Maibom et al. (2017)
Employment effects of ALMP, low-skilled, pp	8.8	7.6	7.2	Card et al (2015) and Behaghel et al. (2014)
Employment effects of the early package, high-skilled, pp (lower bound/average/upper bound)	1.4/2.8/ 4.2			Maibom et al. (2017)
Employment effects of the early package, low-skilled, pp (lower bound/average/upper bound)	1.1/2.1/ 3.2			Behaghel et al. (2014)
No. of jobseekers in each type				
Average no. of newly registered jobseekers, total	3574732			Country expert
Share of low-educated among newly registered jobseekers	0.249			Country expert

Table 5. Country-specific data and assumptions, Estonia

	Period 1	Period 2	Period 3	Source of country-specific data
Country-specific data and assumptions				
Transition rate from UE to E, educated	0.39	0.39	0.23	EU-LFS 2013-2015
Transition rate from UE to E, uneducated	0.39	0.39	0.23	EU-LFS 2013-2015
Share of those in ALMP, educated	0.27	0.27	0.1	PES website
Share of those in ALMP, uneducated	0.27	0.27	0.1	PES website
Cost of ALMP measures and services, EUR/person	5060.74	5060.74	5060.74	Eurostat
Cost of the 12-meeting early intervention package, educated, EUR/person	74.2			Eurostat
Cost of the 12-meeting early intervention package, uneducated, EUR/person	74.2			Eurostat
Average gross wage, educated, EUR/person/month	1067.87	1067.87	1067.87	Structure of Earnings Survey
Average gross wage, uneducated, EUR/person/month	824	824	824	Structure of Earnings Survey
Income tax rate	0.2	0.2	0.2	OECD
VAT rate as from above	0.167	0.167	0.167	OECD
UE benefits, educated, EUR/person/month	241.984	185.992	0	PES website
UE benefits, uneducated, EUR/person/month	240.5	185.25	0	PES website
UE benefits take-up, educated	0.61	0.61	0	PES website
UE benefits take-up, uneducated	0.6	0.6	0	PES website
SA benefits, educated, EUR/person/month	130	130	130	PES website
SA benefits, uneducated, EUR/person/month	130	130	130	PES website
SA benefits take-up, educated	0.39	0.39	0.69	EU-LFS 2013-2015
SA benefits take-up, uneducated	0.4	0.4	0.7	EU-LFS 2013-2015
Non-country-specific assumptions				
Employment effects of ALMP, high-skilled, pp	5.3	5.6	4.4	Card et al (2015) and Maibom et al. (2017)
Employment effects of ALMP, low-skilled, pp	7.9	8.3	6.5	Card et al (2015) and Behaghel et al. (2014)
Employment effects of the early package, high-skilled, pp (lower bound/average/upper bound)	1.1/2.2/ 3.3			Maibom et al. (2017)
Employment effects of the early package, low-skilled, pp (lower bound/average/upper bound)	2.2/4.4/ 6.6			Behaghel et al. (2014)
No. of jobseekers in each type				
Average no. of newly registered jobseekers, total	45912			Country expert
Share of low-educated among newly registered jobseekers	0.143			EU-LFS 2013-2015

Table 6. Country-specific data and assumptions, Portugal

	Period 1	Period 2	Period 3	Source of country-specific data
Country-specific data and assumptions				
Transition rate from UE to E, educated	0.33	0.22	0.12	EU-LFS 2013-2015
Transition rate from UE to E, uneducated	0.24	0.20	0.09	EU-LFS 2013-2015
Share of those in ALMP, educated*	0.07	0.07	0.07	PES supplied data
Share of those in ALMP, uneducated*	0.05	0.04	0.04	PES supplied data
Cost of ALMP measures and services, EUR/person	3312.111	3312.111	3312.111	Eurostat
Cost of the 12-meeting early intervention package, educated, EUR/person	117.6			Eurostat
Cost of the 12-meeting early intervention package, uneducated, EUR/person	117.6			Eurostat
Average gross wage, educated, EUR/person/month	1579.755	1579.755	1579.755	Structure of Earnings Survey
Average gross wage, uneducated, EUR/person/month	849	849	849	Structure of Earnings Survey
Income tax rate	0.275	0.275	0.275	OECD
VAT rate as from above	0.187	0.187	0.187	OECD
UE benefits, educated, EUR/person/month	530.25	530.25	462.236	Eurostat
UE benefits, uneducated, EUR/person/month	530.25	530.25	462.236	Eurostat
UE benefits take-up, educated	0.539	0.566	0.300	EU-LFS 2013-2015
UE benefits take-up, uneducated	0.545	0.600	0.357	EU-LFS 2013-2015
SA benefits, educated, EUR/person/month	394.221	394.221	394.221	Eurostat
SA benefits, uneducated, EUR/person/month	394.221	394.221	394.221	Eurostat
SA benefits take-up, educated	0.461	0.434	0.700	EU-LFS 2013-2015
SA benefits take-up, uneducated	0.455	0.400	0.643	EU-LFS 2013-2015
Non-country-specific assumptions				
Employment effects of ALMP, high-skilled, pp	4.8	4.4	3.1	Card et al (2015) and Maibom et al. (2017)
Employment effects of ALMP, low-skilled, pp	7.2	6.6	4.7	Card et al (2015) and Behaghel et al. (2014)
Employment effects of the early package, high-skilled, pp (lower bound/average/upper bound)	1.0/1.9/ 2.9			Maibom et al. (2017)
Employment effects of the early package, low-skilled, pp (lower bound/average/upper bound)	1.3/2.7/ 4.0			Behaghel et al. (2014)
No. of jobseekers in each type				
Average no. of newly registered jobseekers, total	525030			PES website
Share of low-educated among newly registered jobseekers	0.491			EU-LFS 2013-2015

*Note that ALMP transition rates published by the Eurostat are quite different.

Table 7. Country-specific data and assumptions, Slovakia

	Period 1	Period 2	Period 3	Source of country-specific data
Country-specific data and assumption				
Transition rate from UE to E, educated	0.42	0.42	0.42	PES
Transition rate from UE to E, uneducated	0.20	0.21	0.21	PES
Share of those in ALMP, educated	0.073	0.074	0.074	PES
Share of those in ALMP, uneducated	0.037	0.064	0.064	PES
Cost of ALMP measures and services, EUR/person	1994	1994	1994	Eurostat
Cost of the 12-meeting early intervention package, educated, EUR/person	145			Eurostat
Cost of the 12-meeting early intervention package, uneducated, EUR/person	145			Eurostat
Average gross wage, educated, EUR/person/month	891	891	891	Structure of Earnings Survey
Average gross wage, uneducated, EUR/person/month	544	544	544	Structure of Earnings Survey
Income tax rate	0.228	0.228	0.228	OECD
VAT rate as from above	0.167	0.167	0.167	OECD
UE benefits, educated, EUR/person/month	367	0	0	PES
UE benefits, uneducated, EUR/person/month	367	0	0	PES
UE benefits take-up, educated	0.38	0	0	EU-LFS 2013-2015
UE benefits take-up, uneducated	0.12	0	0	EU-LFS 2013-2015
SA benefits, educated, EUR/person/month	158	158	158	Hidas et al. (2016)
SA benefits, uneducated, EUR/person/month	158	158	158	Hidas et al. (2016)
SA benefits take-up, educated	0.11	0.21	0.29	Hidas et al. (2016)
SA benefits take-up, uneducated	0.16	0.32	0.44	Hidas et al. (2016)
Non-country-specific assumptions				
Employment effects of ALMP, high-skilled, pp	2.9	3.3	2.3	Card et al (2015) and Maibom et al. (2017)
Employment effects of ALMP, low-skilled, pp	4.4	4.9	3.4	Card et al (2015) and Behaghel et al. (2014)
Employment effects of the early package, high-skilled, pp (lower bound/average/upper bound)	1.2/2.4/ 3.6			Maibom et al. (2017)
Employment effects of the early package, low-skilled, pp (lower bound/average/upper bound)	1.1/2.1/ 3.2			Behaghel et al. (2014)
No. of jobseekers in each type				
Average no. of newly registered jobseekers, total	241125			PES website
Share of low-educated among newly registered jobseekers	0.185			PES website

Further technical details of the CBA model

Handling potential general equilibrium effects

Potential general equilibrium (GE) effects are incorporated in the model by decreasing the employment effects as a function of the share of jobseekers assigned to the intervention. In particular, the following penalty terms are introduced for educated jobseekers:

$$penalty\_educated = 2 * (educ\_share + 1) - 1.2, \text{ where}$$

educ_share refers to the share of available jobseekers assigned to the intervention; and for uneducated jobseekers:

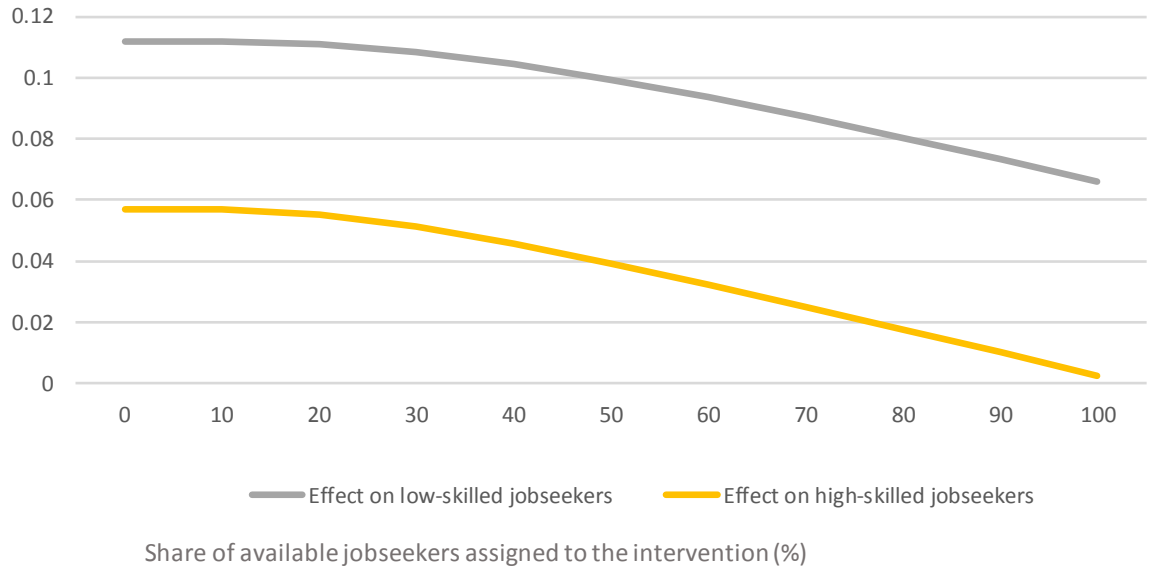
$$penalty\_uneducated = (ued\_share + 1) - 0.1, \text{ where}$$

ued_share refers to the share of available jobseekers assigned to the intervention. The penalty terms decrease the assumed impacts of the intervention as shown in Figure 1.

The penalty terms ensure that

- no penalty is given if 10% of educated or uneducated jobseekers are assigned to the program;
- the GE effects of educated and uneducated jobseekers are independent, as they are not replacements of each other (they are not applying for the same jobs);
- the penalty is higher for educated jobseekers to represent the finding of the literature that such services are in general more effective for the uneducated;
- the penalty term decreases the effects of the program as a concave function of the share of jobseekers in the intervention; thus, it decreases the effect less at low levels;
- the impact of the intervention is still positive when 100% of available jobseekers are assigned to the intervention.

Figure 1. The effect of the intervention as a function of participation



Source: own calculation. The following functions were used: high-skilled: 0.057(1-0.9*ln(penalty)^2); low-skilled: 0.112*(1-ln(penalty)^2).*

Clearly, there must have been several ways to model the potential GE effects; we chose a mid-range solution that does decrease the effect of the intervention somewhat but not extremely.

Employment effects of ALMP measures

The assumptions of the model about the employment effects of "general" ALMP measures on average are set based on Card, Kluve and Weber (2015). They conduct a meta-analysis of 200 recent ALMP evaluation papers and estimate the average impact of such measures for several subgroups of jobseekers. Among others, they find that the average medium-term impact of all program types together are 12 percentage points, measured in the standard deviation (SD) of the dependent variable in the control group (Appendix Table 2, Column 4 of Card, Kluve and Weber, 2015). Furthermore, they also find that the impacts of programmes are on average 6 percentage points higher for disadvantaged jobseekers (again, measured in the SD of the control group) (Appendix Table 7, Column 1 of Card, Kluve and Weber, 2015). Thus, the model assumes that ALMP's increase the probability of finding employment by 12 percentage points in the case of educated, and by 18 percentage points in the case of uneducated jobseekers, measured in the SD of a binary variable that captures finding employment.

We translated these results to our data by estimating the SD of finding employment using the (quasi-)panel version of EU LFS data as described earlier in all countries (but DE and Flanders where the data do not allow that) splitting the samples by education and unemployment duration. Then, using the estimated SD and the employment effects taken from Card, Kluve and Weber (2015), the "average" impact of ALMP's for educated jobseekers in country i and in period p are assumed to be

$$educated\_almp\_impact_{i,p}=0.12*SD\_of\_finding\_employment\_educated_{i,p},$$

and for uneducated jobseekers in country i and in period p are assumed to be

$$uneducated\_almp\_impact_{i,p}=0.18*SD\_of\_finding\_employment\_uneducated_{i,p}.$$

Table 8. shows the results of the procedure. In general, the higher is the share of those finding a job in a group, i.e. the closer it is to 0.5, the higher is the SD, and the higher is magnitude of the effect after translated to the data.

Table 8. The impacts of ALMP's as assumed by the model (percentage points)

Country	Type of jobseekers	Period 1.	Period 2.	Period 3.
Estonia	Educated	0.05	0.06	0.04
	Uneducated	0.08	0.08	0.07
Slovakia	Educated	0.03	0.03	0.02
	Uneducated	0.04	0.05	0.03
Denmark	Educated	0.06	0.05	0.05
	Uneducated	0.09	0.08	0.07
Portugal	Educated	0.05	0.04	0.03
	Uneducated	0.07	0.07	0.05

**For Germany and Flanders, we assumed the same effects as for Denmark.*

Table 9. The sources and details of the impacts of early activation services on Figure 1.

Paper	Outcome	Country	Coefficient (%)	Confidence interval, lower bound (%)	Confidence interval, upper bound (%)
Micklewright and Nagy (2009)	Effect of visiting PES every three weeks on exit rate from UE	HU	-8	-33	17
McVicar (2008)	Effect of tougher monitoring coupled with enhanced job search assistance on exit from UE to E	Northern Ireland	-3	-7	0
Koning (2009)	The effect of 100% increase in the number of workers on outflow rate from UE, short-term unemployed	NL	3	0	6
Koning (2009)	The effect of 100% increase in the number of workers on outflow rate from UE, all unemployed	NL	4	2	6
Card et al. (2015)	The effect if job-search programmes on the probability of empolyment	Meta-analysis	4	4	4
Schiprowski (2017)	Effect of caseworker absense for at least 10 days in the first 3 months of the UE spell on probability of exit UE within 6 months	CH	5	2	9
Maibom et al. (2017)	Effect of indiviual meetings on employment rate of educated unemployed	DK*	6	1	11
Van den Berg and Van der Klaauw (2006)	Effect of spending more time with unemployed on exit rate to work	NL	7	-25	38
Hainmueller (2009)	Effect of decreasing caseload on re-employment rate	DE	9	6	12
Behaghel et al. (2014)	Effect of counselling on probability of finding job	FR*	11	9	13
Fertig (2014)	the effect of treatment on probability of finding employment for UB2	DE	17	6	27
McVicar (2008)*	Effect of zero monitoring on overall exit rate from UE to E	Northern Ireland	-23	20	26
Crepon et al. (2005)	The effect of Job Search Support on exit rate from UE to E	FR	25	18	33
Micklewright and Nagy (2009)	Effect of visiting PES every three weeks on exit rate from UE	HU	28	13	43

*Notes: *Suspension of monitoring meetings in refurbished offices is equal to a reduction in monitoring intensity. Thus, on the graph, we present the coefficient with an inverse (positive) sign as the effect of more intense monitoring.*

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