

Equal Entry – can job search assistance increase employment for newly arrived immigrant women?

A program co-financed by the European Social Fund

Table of content

1	Abstract	4
2	Introduction	4
3	The project Equal Entry	5
4	The JSA program in the study	6
5	The study	7
6	Results of the randomized controlled trial	8
	Results by gender.....	10
7	Cost-Benefit analysis	11
8	Reflections on the program results before and during the covid-19 recession	11
9	Interpretation of and reflections on the results	12
10	References	14
11	Appendix	16
	11.1 Cost-Benefit analysis	16

1 Abstract

In Sweden, alike other northern European countries, labour market participation is lower among immigrants than among native born Swedes and the labour market entry for female immigrants is slower than for male immigrants, leading to overall lower labour market participation. Thus, there exists a demand for knowledge on how female immigrants best can be supported to faster and higher employment outcomes. In this study, we utilize a randomized controlled trial (RCT) to evaluate whether a job search assistance (JSA) program can increase labour market outcomes for female as well as male newly arrived immigrants compared to ordinary support by the Swedish public employment service (PES). The evaluated program in Equal Entry is a general program for female and male job seekers, designed out of needs and conditions common among newly arrived women, such as family responsibilities limiting labour supply or a lack of labour market experience.

We find that the program increases labour market participation rates among newly arrived immigrants with about ten percentage points, corresponding to a 33 percent increase, compared to the support otherwise offered at the Swedish PES. The experimental study design allows us to draw causal conclusions: it is the intervention that creates the effect on employment. A Cost-Benefit analysis also suggests that the JSA program is cost-efficient, under the assumption of 18 months of effect durability. Moreover, the results suggest that the applied and studied JSA intervention is successful in matching female as well as male job seekers into employment. As implied by the study, carefully designed JSA interventions can potentially increase labour market participation of newly arrived women.

2 Introduction

The Swedish labour market is characterized by large disparities between foreign-born and native-born Swedes. Both the overall employment rate and wage level are lower among foreign-born than natives. Among the foreign-born, refugees face problems such as a slow entry and a low level of long run labour market outcomes (Åslund et al. 2017). Labour market integration is especially slow for women who immigrated as refugees or in need of protection. A little less than half, 45 percent, have never had an employment five years after their arrival in Sweden (among the cohorts that immigrated between the years 2000 and 2005). Similarly, approximately half of the female family members to refugees have not had an employment during the first five years in Sweden. The lack of labour market connection is much higher among women than among men from the same immigrant categories. It is also higher among female family members to refugees compared to female immigrants from non-western countries who received residence permit as a family member (SOU 2012:69). Female refugees are described as having a “triple disadvantage” as their labour market outcomes are lower than male refugees, other female immigrants as well as female natives (Liebig & Rose Tronstad 2018).

Two main explanations to the lower employment rate among foreign-born women are a greater responsibility over children and family and a poorer health compared to

foreign-born men (SOU 2012:69). Swedish childcare policies have traditionally been successful in increasing the employment rate of women but are not equally successful in raising the employment rate of foreign-born women. Another commonly presented explanation is the mismatch in education level between newly arrived immigrants and labour demand in Sweden (Nordiska ministerrådet 2018). The share of the lowest skilled jobs is very low in Sweden when compared to similar countries and employers are increasingly demanding labour with at least secondary school education (Eriksson et al. 2017). Meanwhile, immigration has affected the composition of the labour force and increased the share of workers with less than secondary school education (SOU 2012:69). Female immigrants, with a higher share of the least educated could therefore be more hindered by the skill mismatch.

Sweden has a long history of policies targeted at increasing the labour market participation of new immigrants, including active labour market interventions. Research suggest that programs offering job search assistance (JSA)¹ are more effective for labour market transitions than preparatory programs². However, there is a lack of knowledge on what programs and policies are successful for foreign born women (Nielsen Arendt & Schultz-Nielsen 2019). Foreign born women, and in particular newly arrived women, are underrepresented in JSA programs and instead unproportionally allocated to preparatory programs (Andersson Joonas 2020; Cheung 2018). One reason for this is that female immigrants are perceived as less employable than male immigrants and not categorized as such, which is a requirement for participation in the most effective programs and activities at the Swedish PES (Cheung 2018).

One interpretation of previous research is that the overall finding of effectiveness of JSA programs might be transferable to newly arrived female immigrants. If so, the labour market transition rate of female newly arrived would raise if they were selected to this type of interventions. The project Equal Entry has been designed to evaluate that particular question: *can JSA increase labour market transitions for newly arrived immigrant women?*

3 The project Equal Entry

From this background, the Swedish PES are conducting a project, Equal Entry, with the purpose both to increase transitions to the labour market for newly arrived female and male immigrants, but also to use the framework of a credible study design to evaluate the program and add to the knowledge on what programs are beneficial for newly arrived female immigrants. The JSA program evaluated in the project has been constructed around the specific needs and conditions of newly arrived women often presented in the literature, such as family responsibilities limiting labour supply or a lack of labour market experience.

¹ JSA programs are distinguished from the general service by the intensity in which the assistance is given. Forslund and Vikström (2011) define JSA as support to the job seeker to gain a more effective job seeking behaviour, for example career guidance, coaching and courses in writing a CV. Other JSA programs are providing direct support matching job seekers to existing vacancies (Crepón & van den Berg 2016).

² Most studies find positive effects of JSA, see for example the meta-analysis by Card et al. (2018). Butschek & Walter (2014), however, conclude that wage subsidies are more effective for immigrants than JSA programs characterized by counseling and monitoring. There are also studies suggesting that preparatory programs have little effect on employment, see for example Riksrevisionen (2017).

The project is co-financed by the European Social Fund and is carried out in 16 geographical locations of the Swedish PES, between 2018 and 2021. The target group is newly arrived immigrants who have had residence permit for up to four years. They have either received residence permits as refugees or by being in need of protection, or as family members to immigrants from these groups³.

The project is constructed as a randomized controlled trial (RCT) which enables us to evaluate the effects of the program. Hence, study participants are randomized into either the JSA program or the control group. The randomization is eliminating systematic differences between the intervention and the control group and creates comparable groups in observed and unobserved characteristics before the intervention starts. If we later can observe a difference in labour market outcomes between the intervention group and the control group, we know that it can only be attributed to the intervention. In other words, the experimental study design creates a credible control group and therefore a way to estimate the causal effect of the JSA program. Neither study participation nor randomization outcome changes participant status at the PES. The control intervention is thus comprised of what was available to the job seeker at their PES office before study participation.

4 The JSA program in the study

The intervention evaluated in Equal Entry is specifically designed to offer job search and matching assistance to job seekers who have been in Sweden for only a short period of time. In particular, the intervention is aimed at catering to the needs of those with a large distance to the Swedish labour market⁴. The idea is to create the conditions needed to identify labour demand for men and women who lack work experience and formal skills and otherwise would be considered “not employable”. The program starts with a broad and inclusive guided mapping of the job seekers’ formal and informal skills, desired professions and flexibility. Caseworkers are trained to adapt the questions to those job seekers who lack formal skills in order to capture their informal skills. The second step of the program is to identify corresponding employers. These are selected to reflect the stock of labour supply. The labour demand of employers is surveyed in a similar way as the labour supply of the job seekers. The job seeker and the employer are supported by the caseworker throughout the process of the job seeker’s entry into the labour market: during the job interview, and with follow-up when needed. Consequently, the JSA program evaluated in this study is not limited to guidance or training of the job seeker but to provide a direct matching assistance between job seekers and existing vacancies, and to find suitable vacancies emanating from the job seekers’ career goals, qualifications and flexibility.

³ We describe our target group as newly arrived immigrants. Other words used in the literature are non-labour immigrants and non-western immigrants which both could be used to describe our target group. Amongst our study participants: about half are born in Syria. Other common countries among study participants are Eritrea, Afghanistan, Iraq, Somalia and Iran.

⁴ Key factors behind such a distance could be a lack of formal skills, few previous labour market experiences or insufficient knowledge of the Swedish language. However, from empirical analysis, we find that having female gender is the dominating factor behind low probability of labour market transition in the target group, even after controlling for labour market experience, language, and education.

Different measures have been taken to ensure female job seekers and job seekers far from the labour market are selected to the project. The first main activity in the JSA program is the above described systematic mapping which is held in groups of four to six job seekers⁵. Caseworkers are encouraged to compose heterogenous groups in terms of gender, age, mother tongue, educational level etc. This strategy gives caseworkers incentives to avoid cream skimming and include female job seekers as well as job seekers with less than secondary school to the study. Cream skimming in the selection implies that caseworkers include job seekers to the study that they believe are “employable” and easy to match with vacancies. Gender equality as well as prioritizing job seekers far from the labour market is emphasized as important by the project management. Caseworkers including study participants are instructed to include job seekers so that study participants are representative of the overall target population. The project staff have full access to results on the gender composition of the inflow to the program. In addition, measures are taken to increase the likelihood that female job seekers are not only formally included in the program but receive the full JSA intervention (i.e. are matched to suitable vacancies). Caseworkers are encouraged to work with the same number of women as men; they are encouraged to prioritize job seekers far from the labour market- a position which among study participants has a high overlap with the trait female gender- and they have full access to and receive continuous follow-ups on the gender composition regarding outflow to work and workplace training among program participants.

5 The study

In the empirical analysis two groups are compared: the study participants who are randomized to the control group with ongoing access to the PES ordinary support, and the study participants who are randomized to being offered entry into the JSA program (in addition to the PES ordinary support). Study participation is conditional to an informed consent about the general purpose of the study. Until randomization into one of the two groups, all participants receive the same information. Each new job seeker who consents to the study is randomly allocated to one of the two groups. In the next step, those randomized into the intervention group receive information on the availability of the JSA program. Job seekers randomized into the control group continue the ongoing meeting with the caseworker and continue to have access to all services at the PES (that would have been available to them outside of the study). All job seekers randomized to the intervention group are offered the JSA program and they are included if they express that want the support to find a job right now.

Randomization is a key feature in the study design as it eliminates systematic differences between the intervention and the control group and makes it possible to study the causal effect of the JSA program. The empirical analysis thus separates the groups depending on randomization outcome, irrespective of whether a particular study participant declined the JSA offer or did not show up to meetings. This is an intention-to-treat-analysis. Focus is on the question whether the JSA program increases the average share in employment or not. The empirical analysis is performed using regression analysis.⁶

⁵ After the outbreak of the covid-19 pandemic, individual mapping meetings have been held over phone.

⁶ For the full empirical specification, see Helgesson et al. (2020).

Since the JSA program focuses on matching to employment, the outcome variable of main interest is whether the individual is in employment, subsidized or not. In our definition of a positive outcome – defined as employment – we include exiting the PES to enter formal education to ensure that the comparison of the JSA program with ordinary support covers all policy relevant outcome measures.

This report is based on an impact evaluation published in June 2020 by the Swedish PES. This text is a summarized English version analysing a longer time period, from 15 of March 2019 to 23 of September 2020, and hence with new updated results. In total 6230 individuals have given their consent to participate in the study out of which 1660 can be followed during at least 15 months. Hence, this is an evaluation during an ongoing project. A full description on empirical strategy and data, etcetera, can be found in the original publication, see Helgesson et al. (2020).

6 Results of the randomized controlled trial

The effect evaluation shows that the JSA program increases the average probability of employment⁷ compared to ordinary support offered by the PES. Because of the short time frame and the limited evaluation horizon we evaluate the results repeatedly on different time horizons: we follow their outcomes from the time of randomization and 15 months forward⁸. *Figure 1* shows the share in employment for the intervention group and the control group at different time horizons after randomization. The y-axis shows share in employment in percent and the x-axis shows months since randomization. The share of employed in the intervention group is shown by the blue line, and the share in employment in the comparison group is shown by the green line. Four months post randomization, just over half of the participants in the intervention group has taken part in the systematic mapping which defines the entry of program participation. Correspondingly, positive effects on transitions to employment begin to show after about the same amount of time. The employment levels of the intervention group and the control group start to separate after approximately five months since randomization, which means that a larger share in the intervention group transition to employment compared to the comparison group. After at least 15 months post randomization, 40 percent in the intervention group have a positive outcome compared to 30 percent in the control group, as shown in *Figure 1*.

The RCT study design ensures that, before randomization, individuals who are offered to participate in the JSA program are equal (on average) to study participants who do not receive that offer. Both regarding observable characteristics and unobservable characteristics. Because the groups were similar before the intervention, their subsequent differences in employment can be interpreted as intervention effects. The effect of the intervention on the employment rate thus equals the estimated difference between the intervention group and control group, portrayed in *Figure 2*. The effect size of the program is estimated to 10 percentage points (pp) after 15 months, shown in *Figure 2*. The effect difference between

⁷ The outcome includes formal education as well, see section *The study* for details.

⁸ Month since randomization is a measure of how long, at least, the job seeker has participated in the study. For each evaluation horizon we compute a separate effect using regression analysis. The job seekers we can follow the longest have participated more than 19 months.

intervention and control is statistically significant for evaluation horizons longer than five months, where the shaded confidence interval no longer includes zero. The uncertainty increases in the analyses with a long evaluation horizon as the sample size decreases.

Figure 1: Share in employment by study group

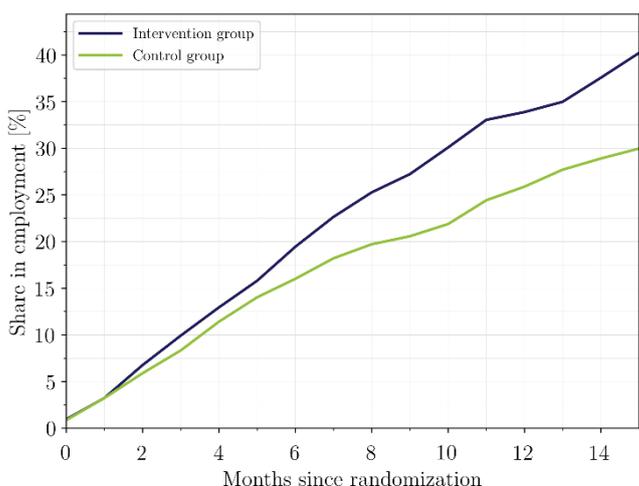
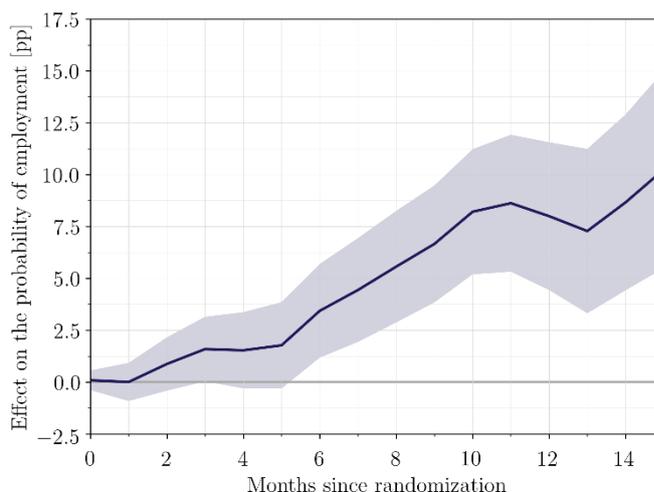


Figure 2: Effect of the JSA intervention on the share in employment, percentage points [pp]



In conclusion: the JSA intervention is better at helping job seekers into employment than the ordinary support at the PES, improving their employment outcomes with 10 percentage points during the 15 month follow-up period. For the job seekers in the intervention group, the effect size of the intervention means that their probability of being employed is 33 percent higher than it would have been, had they not received the offer to take part in the program.⁹ Since the job seekers are randomized between the intervention group and the control group, both groups are equal on average and therefore comparable. Because of the study design we know that it is the intervention that causes the effect on employment.

⁹ This relative effect is computed by comparing the effect of the intervention with the employment level of the control group.

Results by gender

In the section above we concluded that the JSA intervention is better at matching job seekers into employment than ordinary support at the PES. However, different groups of job seekers could potentially respond differently to the JSA intervention. Our next question of interest is therefore whether the matching program has been successful in increasing the probability of employment specifically for female job seekers. To answer this question, we repeat the analysis separately by gender. We split the data in two halves and estimate the effect of the intervention on the female study participants only and the male study participants only, respectively. The results by gender are presented in *Figure 3-4*.

Figure 3: Share of women in employment

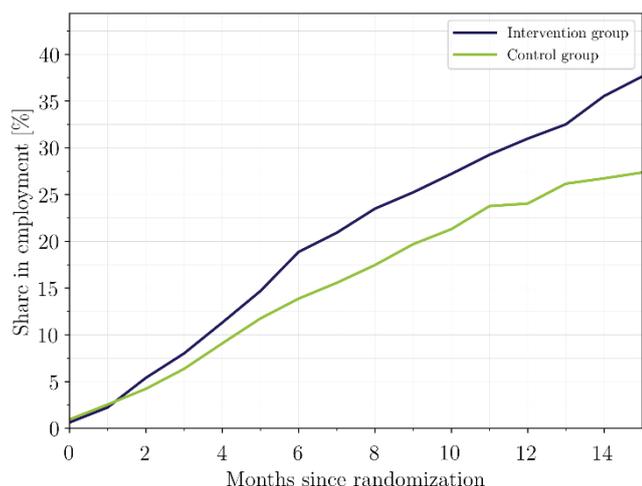
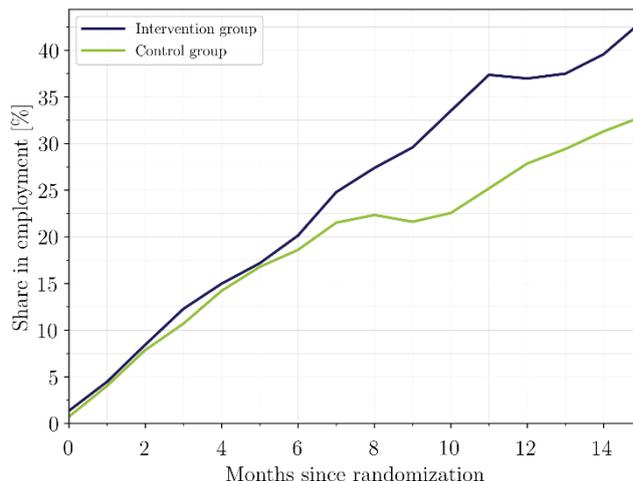


Figure 4: Share of men in employment



After at least 15 months in the project, 37 percent of the women in the intervention group are working or studying compared to 27 percent in the control group. Among men, 43 percent of the intervention group are in employment compared to 33 percent of study participants in the control group. Thus, the effect size equals 10 percentage points for both men and women, the same magnitude as the overall effect size (see *Figure 2* for comparison) and is statistically significant.¹⁰ There are thus no indications of differential effect sizes by gender. In sum, the JSA program is successful in increasing the employment rate for women as well as men compared to the ordinary support at the Swedish PES. Both female and male newly arrived immigrants are benefitting from the help offered in the JSA program.

¹⁰ Effect estimates by gender are not shown, but effects for women only are statistically significant from five months post randomization. On certain evaluation horizons, the effect is higher for men than women, and vice versa, and the confidence intervals for men and women overlap on each evaluation horizon.

7 Cost-Benefit analysis

We have carried out a Cost-Benefit analysis where we put a monetary value on both revenues and costs. The increased number of worked days in the intervention group creates revenues in terms of increased production, approximated to the employer's costs for the additional labour. How large the revenues eventually will be, depends on the nominal effect size, the salary, as well as the durability of the effect. The effect size of the intervention is estimated at 15 months since randomization at the longest because of the short evaluation horizon in this study. At this point the future durability of the effect is unknown. Next, costs can be thought of as the value of caseworkers' hours worked in the JSA program. Using rich data on how the workers allocate their time gives us the possibility to calculate an approximate measure on costs per study participant. Average costs per participant are then compared to average revenues per participant, under different assumptions of effect durability. The Cost-Benefit analysis suggests that the revenues would reach approximately the same size as the costs if the effect size observed at 15 months post randomization were to last another additional 18 months. The Cost-Benefit analysis will benefit from a longer evaluation period so that the effect durability can be estimated and, subsequently, revenues can be calculated with less uncertainty. See appendix and Helgesson et al. (2020) for more details on the Cost-Benefit analysis.

8 Reflections on the program results before and during the covid-19 recession

The results in this report are estimated on a time period that includes March to September 2020, a time period highly affected by the covid-19 recession. The project has continued to match job seekers and employers through the time period when the covid-19 pandemic has altered both the conditions of the JSA program implementation as well as the labour market. Since the outbreak of the pandemic the inclusion of new participants and the contact with job seekers and employers are conducted over phone.

In the previous project report, published in June 2020, events up until 15 of March 2020 were included. These "before-pandemic" results showed strong and statistically significant effects (Helgesson et al. 2020). The current report which analyses a time period that includes seven months of pandemic recession however shows slightly stronger and more statistically significant results than the earlier mentioned report. We cannot predict how the results would have been in absence of the pandemic recession. The pandemic has severely afflicted certain industries which are large employers of the study population, such as the restaurant and service industries. However, what we can say is that there is no apparent diminishing effect on the results that can be traced to the pandemic recession. The results from both reports taken together suggest that the evaluated JSA program has been successful in matching immigrants into employment, before- as well as during- the pandemic recession.

9 Interpretation of and reflections on the results

In this study we evaluate the effect of offering a JSA program participation within the project Equal Entry to newly arrived immigrants, on their employment rate. This is an evaluation of an ongoing project and hence the evaluation horizon is short. The study is an RCT which implies that the intervention group and the control group are equal on average at the time of entering the study, so that the only difference between the groups is the contribution from the JSA program. Thus, we can interpret group differences as intervention effects. After 15 months of the study, the share of employed people in the intervention group is 10 percentage points higher than in the control group. Another way of phrasing this result is that the JSA program is 33 percent better at helping job seekers transition into, and to stay in, employment – compared to the ordinary support offered by the PES. As these numbers show, the effects are large and statistically significant. A Cost-Benefit analysis indicates that the program will carry its own costs if the effect size observed at 15 months post randomization were to last another additional 18 months.

A key evaluation question is whether the JSA program can assist newly arrived immigrant women. We see that effects are statistically significant and economically meaningful from six months after randomization and throughout the follow-up period. From these results we conclude that it is possible to design a JSA intervention that increases labour market transitions for female as well as male immigrants. Together with the promising results from the Cost-Benefit analysis, the policy implication is that the JSA can be utilized for the purpose of increasing labour market transitions among newly arrived immigrant women.

The project has been evaluated as a whole, offered to a random selection of the study participants. We cannot draw any more certain conclusions than that it is the program as a package which has produced the results. It is possible that the results in part come from the implementation of the project as a whole or the benefits of working project-based with a clear framework.

The effect sizes reported here analyses a time period that includes seven months of pandemic recession. In comparison to an earlier impact evaluation, including only pre-recession results, the results reported here are slightly stronger and more statistically significant. The results from both reports taken together suggest that the efforts taken inside the program to adapt the JSA program to the current pandemic recession have been fruitful, and, importantly, that the evaluated JSA program can be successful in matching newly arrived immigrants into employment, during periods of a booming economy as well as during times of economic recession.

We want to highlight two components that we believe are key to the results. First, women in the target group are situated especially far from the labour market which in part can be explained by shorter education and limited work experience. The women's informal qualifications, such as life experiences, interests and personal qualities, make up a larger share of the group's total labour market skills as compared to the role of informal qualifications for other job seeker groups. To successfully match all job seekers, no matter their formal qualifications, the JSA program has been constructed to have the capacity to identify and carry out matching based on informal qualifications. Our second point is the importance of an active management to make sure that women get to take part of the program and get to benefit the full support offered inside the program. The guiding principle for the project has been that "everyone is employable" but that does not mean that everyone needs the same

amount of support. Different individuals may need different amounts of help to transition into employment and it is the caseworkers' job to distribute help where it is most needed.

Similarly, the project design and management is an example of how perspectives from gender mainstreaming and gender impact assessment can be utilised when designing and managing a labour market intervention to reach gender equal outcomes. The decision to evaluate an intervention constructed out of the needs and conditions common among newly arrived women is the first step of gender mainstreaming. Another important aspect has been to ensure that women are chosen into the program and get to take part of the support offered inside the program. Data on job seeker gender and distance to the labour market in inflow into the study, progress (job interview, work internships) and outflow into employment has been collected and analysed continuously. This data driven approach has permitted the project management to use data on inflow, progress and results separated on gender and distance to the labour market when providing direction to local units of the Swedish PES. Goals for gender equal consequences were set up and sex-disaggregated results were communicated to all project members – from caseworkers to managers – in an active management with the purpose to give female participants full access to the program.

This way of describing the management of the project – *construct an invention out of the needs of women – choose women to take part of the intervention – set up goals for gender equal consequences – communicate the sex-disaggregated results*, we call our “4C-model”. The 4C- model is a way to talk about gender mainstreaming that could be relevant for others designing labour market interventions with the goal to increase gender equality in outcomes.

The project Equal Entry continues until august 2021 and will continue to match newly arrived immigrants to employment. The impact evaluation of the JSA program will be repeated in the end of the project with a longer evaluation horizon and presented in a final report published by the Swedish PES during 2021.

10 References

- Andersson Joonas, P. (2020). *Aktiviteter för flykting- och anhöriginvandrare inom etableringsprogrammet*. Rapport 2020:4. IFAU.
- Butschek S. & Walter, T. (2014). What active labour market programmes work for immigrants in Europe? A meta-analysis of the evaluation literature. *IZA Journal of Migration*. (2014) 3:48. <https://doi.org/10.1186/s40176-014-0023-6>
- Card, D., Kluve, J. & Weber, A. (2018). What works? A meta analysis of recent active labour market program evaluations. *Journal of European Economic Association*. 16(3). 894–931. <https://doi.org/10.1093/jeea/jvx028>
- Cheung, M. (2018) *Hur skapar vi en mer jämställd arbetsmarknadsetablering? En studie av Arbetsförmedlingens förmedlingsverksamhet och insatser ur ett jämställdhetsperspektiv*. Arbetsförmedlingen Working paper 2018:2. Diarienummer: Af-2018/0005 3281.
- Crepón B. & van den Berg G.J. (2016) *Active labour market policies*. Working paper 2016:17. IFAU.
- Eriksson, S., Hensvik L. & Nordström Skans, O. (2017) *Den svenska arbetsmarknaden och dess utmaningar*. Rapport 2017:5. IFAU.
- Forslund, A. & Vikström J. (2011) *Arbetsmarknadspolitikens effekter på sysselsättning och arbetslöshet – en översikt*. Rapport 2011:7. IFAU.
- Helgesson P., Jönsson, E., Ornstein, P., Rödin M. & Westin, U. (2020). *Matchningsinsatser för personer som nyligen fått uppehållstillstånd. Delrapport från Socialfondsprojektet Jämställd etablering*. Arbetsförmedlingen analys 2020:3.
- Liebig, T. & Rose Tronstad, K. (2018). *Triple disadvantage?: A first overview of the integration of refugee women*. OECD Social, Employment and Migration Working Papers, No. 216.
- Nielsen Arendt, J. & Schultz-Nielsen, M.L. (2019). *Employment effects of Welfare Policies for Non-Western Immigrant Women*. In Calmfors, L. & Sánchez Gassen, N. (eds). *Integrating Immigrants Into the Nordic Labour Markets*. Nord 2019:024. 159-184. Nordic Council of Ministers. <http://dx.doi.org/10.6027/Nord2019-024>
- Nordiska ministerrådet (2018). *Nyanlända kvinnors etablering. En komparativ studie av nyanlända kvinnors etablering på arbetsmarknaden i Norden och de etableringspolitiska insatserna*. TemaNord 2018:520. Nordic Council of Ministers. <http://dx.doi.org/10.6027/TN2018-520>
- Riksrevisionen. (2017) *Effekter av Arbetsförmedlingens Förberedande och orienterande utbildning*. RIR 2017:20.

SOU 2012:69. *Med rätt att delta. Nyanlända kvinnor och anhöriginvandrare på arbetsmarknaden*. Slutbetänkande av Utredningen om ökat arbetskraftsdeltagande bland nyanlända utrikes födda kvinnor och anhöriginvandrare (AKKA-utredningen).

Åslund, O., Forslund A. & Liljeberg L. (2017). *Labour market entry of non-labour migrants – Swedish evidence*. In Piil Damm A. & Åslund O. (eds). *Nordic Economic Policy Review. Labour Market Integration in the Nordic Countries*. TemaNord 2017:520. 115-158. Nordic Council of Ministers. <http://dx.doi.org/10.6027/TN2017-520>

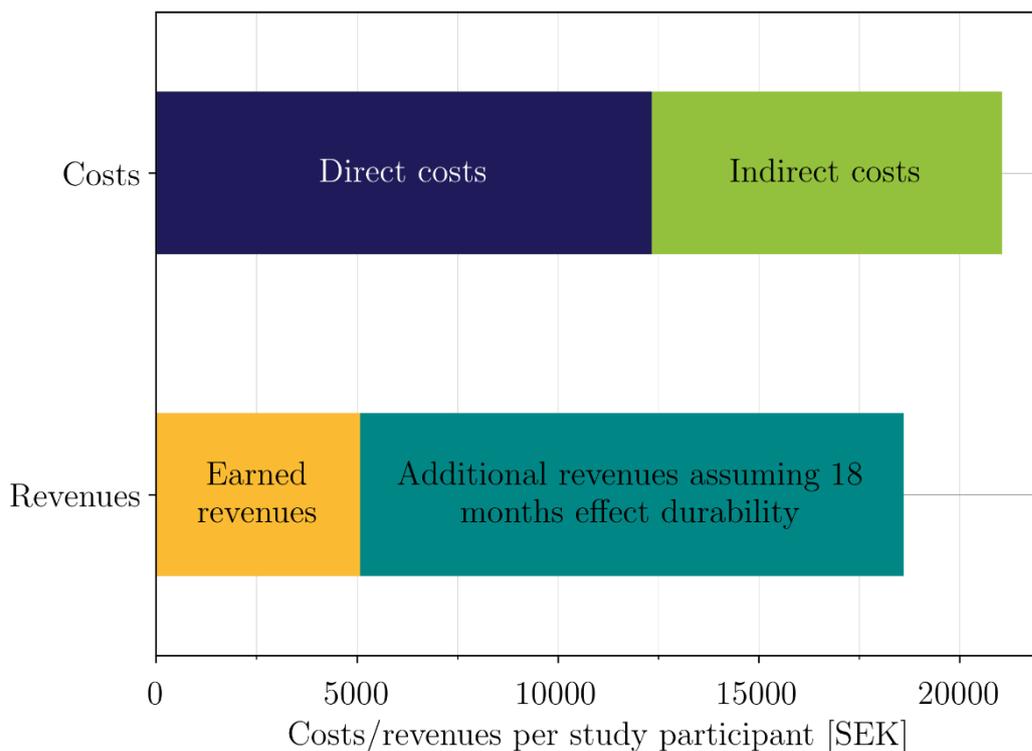
11 Appendix

11.1 Cost-Benefit analysis

Good outcomes on transitions to employment are not the only criteria to make a program policy relevant. A successful but very costly program will not be an effective use of limited resources. We therefore carry out a Cost-Benefit analysis where we put a monetary value on both revenues and costs. Revenues are monetized using the increased production due to increased employment in the intervention group. The increased number of worked days creates revenues in terms of increased production, approximated to the employer’s labour cost. The average monthly revenue is calculated using regression analysis. In case employment is subsidized, only the part of the wage cost that is paid by the employer is used for calculation. How large the revenues eventually will be, depends on the nominal effect size as well as the durability of the effect.

Similarly, costs can be thought of as the value of used productive time in terms of caseworker’s hours worked in the JSA program. Using rich data on how the workers allocate their time gives us the possibility to calculate an approximate measure on costs per study participant. The exact number of hours worked in the JSA program is difficult to allocate, to capture this we bound the estimated caseworker time using a floor, including only tasks directly associated with the JSA program, and a ceiling,

Figure 5: Comparison of costs and revenues after at least 15 months since randomization



including all tasks that could potentially be contributed to the JSA program.¹¹ Next step is to assess case worker cost, which includes average salary, payroll tax, insurance costs and overhead costs.¹² More details on how the Cost-Benefit analysis is calculated can be found in our main report, Helgesson et al. (2020).

Figure 5 summarizes the Cost-Benefit analysis per individual participant after at least 15 months since randomization. The upper bar is the calculated costs, in case workers' hours, for one job seeker randomized to the study 15 months before. The blue area is the direct costs, that sums to a little more than 12 000 SEK, and the green area is the ceiling that reaches 21 000 SEK. The true costs are probably somewhere in the middle of the two cost measures. The revenues are shown in the lower bar. During this short time frame we can observe a revenue of 5 000 SEK has been earned through an average study participant randomized to the study 15 months before, which is the yellow area of the lower bar. How much revenue that is generated depends on how many extra jobs are created, their wage, and how durable they are. Whether the program is cost-effective depends of the durability of the effect which best can be answered with a longer evaluation horizon. If the effect from 15 months since randomization will last another 18 months, then the revenues reaches 18 600 SEK which lies in between the two cost measures. As shown by *Figure 5*, our calculations suggest that the program is cost-effective if the gap in increased production between intervention and control group holds approximately 18 more months.