Can Job Search Assistance Improve the Labour Market Integration of Refugees? Evidence from a Field Experiment

Michele Battisti, Yvonne Giesing, Nadzeya Laurentsyeva

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Abstract

We conducted a field experiment to evaluate the impact of job-search assistance on the employment of recently arrived refugees in Germany. The treatment group received job-matching support: an NGO identified suitable vacancies and sent the refugees' CVs to employers. Results of follow-up phone surveys show a positive and significant treatment effect of 13 percentage points on employment after twelve months. These effects are concentrated among low-educated refugees and those facing uncertainty about their residence status. These individuals might not search effectively, lack access to alternative support programmes, and may be disregarded by employers due to perceived higher hiring costs.

JEL-Codes: F220, J610, J680.

Keywords: refugees, labour market integration, job search assistance, field experiment.

Michele Battisti
University of Glasgow
Glasgow / United Kingdom
michele.battisti@gla.ac.uk

Yvonne Giesing
Ifo Institute
University of Munich
giesing@ifo.de

Nadzeya Laurentsyeva
CEPS
University of Munich
Nadzeya.Laurentsyeva@ceps.eu

1   Introduction

Several European countries have experienced relatively large inflows of asylum seekers between 2014 and 2017. In this period, almost 1,5 million individuals applied for asylum in Germany. Over 900 thousand of them received a positive decision and are, therefore, likely to stay in Germany, at least in the short and medium term.[1] Despite entering Germany for non-economic reasons, many of the recently arrived refugees intend to work. The labour market integration of refugees is important not just for their own well-being and for its impact on public finances, it also shapes the public view on refugee migration, which in turn affects migration policy at large. A growing number of academic studies emphasise that labour market integration of refugees can be more challenging than that of unemployed natives or of other immigrants.[2] Refugees differ from other population groups in terms of background characteristics and life experiences, and this certainly affects their labour market integration. In addition, they often have to comply with additional legal requirements and restrictions in the host countries.[3] Yet, as suggested by Dustmann et al. (2016), specific policies have the potential to accelerate the labour market integration of refugees. This paper focuses on a specific policy of this type.

While language and professional skills certainly matter for employment, labour market frictions, such as insufficient information about the local labour market, undeveloped social networks, uncertainty concerning the asylum or residence status, and legal barriers may create obstacles for refugees as well. Similarly, employers who could potentially benefit from hiring a refugee may be discouraged by a lack of information and high perceived hiring costs. To what extent do these frictions affect the chance of job-seeking refugees and potential employers to form successful matches? In particular, can a simple and inexpensive job search assistance programme ease these frictions and increase employment rates? In order to address some of these questions, we conducted a Randomised Controlled Trial (RCT) to estimate the causal effect of easing matching frictions on contacts with potential employers, and on employment of refugees and asylum seekers in Munich.[4] The participants of our study are refugees who arrived in Germany between 2014 and 2017. We met the participants during regular job-counselling sessions of a Munich-based NGO, which provides job search support for refugees. Over the period May 2016-September 2017, we interviewed in person about 400 job-seeking refugees. We collected data on their education, skills, work experience, job search behaviour, and expectations

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[1]Eurostat, migr_asydcfsta dataset.

[2]Among others, see Brücker et al. (2016), Chiswick and Miller (1994), Cortes (2004), Constant and Zimmermann (2005), Jaeger (2006), Aydemir (2011) Dustmann et al. (2016), Fasani et al. (2018), and Ruiz and Vargas-Silva (2018).

[3]Dustmann et al. (2016) and Keller (2016) discuss challenges that refugees face in the labour markets.

[4]Our sample includes (i) individuals whose asylum application has been approved so they have the status of refugees, (ii) those who are still waiting for a decision, (iii) and those who have been already rejected but cannot be deported and thus received a tolerated status ("Duldung"). This means that no single category will precisely characterise our sample. For simplicity, in the rest of the text, we will refer to 'refugees' to denote all three groups, excluding parts where a distinction is necessary.

concerning their labour market performance in Germany. All participants of the job-counselling sessions received a CV in German and basic job search information. In a second step, we randomly allocated each participant to either the treatment or the control group. Those who were part of the treatment group, in addition to the core support provided by the NGO, benefited from the NGO's job-matching services. The CV profiles of the participants in the treatment group were added to a database, which the NGO's employees use for matching with potential employers. Once the NGO identified a potential match between a job seeker and a vacancy, the NGO (upon agreement of the job seeker) forwarded his or her CV to the employer.

The treatment effects we estimate are based on follow-up surveys conducted six and twelve months after the start of the treatment. We find that this intervention has positive and statistically significant effects on employment. The effects, however, become noticeable only twelve months after the start of the intervention. We further investigate the extent to which effects are heterogeneous by education group and by legal status. We find that the positive effects of this intervention are concentrated among refugees who face more difficulties accessing the German labour market, i.e. those with lower levels of education and those facing uncertainly about their asylum or residence status. We do not find support for the view that these results are driven by lower search efforts among these individuals. Instead, these individuals have a larger need for the job search assistance offered by the NGO, as they often have limited access to other providers of similar services. In addition, potential employers may disregard applications due to (perceived) higher hiring costs. In this case, the firms that receive a CV from the NGO can get encouraged to hire because they perceive that they may receive help and advise. Moreover, individuals with lower levels of education are less likely to report using efficient search methods and might not search effectively, despite investing much time.

Our project clearly relates to the literature on the economic integration of immigrants, and of refugees in particular, into the labour market of the host country.[5] Researchers have identified a number of important factors for refugees' integration: initial conditions upon arrival (Braun and Dwenger 2017), expected duration of stay (Adda et al. 2014; Dustmann and Görlach 2016), legal status (Devillanova et al. 2018). Several studies also evaluate specific policies targeting the integration of refugees into the labour market of the host country. Clausen et al. (2009) analyse the effect of different integration policies on the job search duration for refugees and family reunification migrants, using administrative data from Denmark. They find that wage subsidies are effective policy tools to integrate newly arrived refugees into the labour market. They also find that an improvement in language skills significantly facilitates refugees' labour market entry. Rosholm and Vejlin (2010) look at how incentives influence the extent to which refugees take up work, also in Denmark. They find that lowering income transfers for refugees increases their labour force participation but only two years after having obtained residency.

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[5]See Bevelander (2016) for an overview of recent research on the integration of asylum seekers.

During the first two years, refugees have very few job opportunities mainly due to insufficient language skills. Andersson Joona et al. (2015) evaluate a Swedish labour market reform aimed at supporting refugees in finding employment faster. Using a difference-in-difference design around the introduction of the reform, they do not find any significant short-term results of increased support by the public employment services. In a later version of the study (Andersson Joona et al. 2016), however, the authors report a positive impact on both employment and wages two and three years after the roll-out of the reform. To the best of our knowledge, our paper is the first to use an experimental research design for the evaluation of a labour market programme that specifically targets refugees.

Our work also relates to the literature on the effects of active labour market programmes, and of job search assistance programmes in particular. Card et al. (2018) contains a large meta-study on evaluations of active labour market programmes. Their results show that job search assistance programmes can be particularly effective for disadvantaged workers.[6] Maibom et al. (2017) present results from three randomised field experiments conducted in Denmark with native unemployed workers. They find that individual meetings with case workers improve future employment outcomes. Manoli et al. (2018) evaluate the long-term effects of a job search assistance programme for unemployed workers in Nevada. The programme, which comprised both monitoring of search effort and personalised job-counselling, led to long-term increases in employment and earnings of participants. Belot et al. (2016) evaluate an online tool to improve the job search of unemployed individuals in Edinburgh. The tool broadened the set of considered jobs and significantly increased the number of job interviews especially for participants who otherwise searched narrowly and had been unemployed for a few months. Abel et al. (2018) estimate the effects of plan-making on job search behaviour and employment among unemployed youth. The study shows that, beyond the time allocated to job search, efficiency and effectiveness of search activities is important. The last two studies relate to one of the possible channels behind our results: the job-matching services can add value because the NGO can better identify potential employers and may be more effective in contacting them. However, it is not obvious that findings from studies on native unemployed workers can provide a useful benchmarks for refugees. On the one hand, unemployed workers often have more experience in the local labour market and do not face many of the disadvantages that make refugees hard to employ. On the other hand, certain characteristics of native unemployed workers (some of which may have contributed to their unemployment) might not be present to the same extent among refugees.

The contribution of this paper to the existing literature is threefold. First, we provide a rigorous evaluation of a job search assistance service for refugees through a RCT. Using a clean identification strategy is important in this context, since unobservable characteristics are likely to influence the decision to contact service providers and at the same time may affect labour

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[6]These findings are consistent with those of Card et al. (2010), who also offer an excellent review of previous work on the effects of active labour market policies.

market outcomes. We show that refugees experience difficulties in their job search process and that in certain cases a job-matching service can significantly increase employment. This suggests that policies targeted at facilitating labour market entry may be effective also for refugees. Second, we present details on what the treatment has been in practice, which allows us to better describe the mechanisms at work, identify the most affected groups and derive precise policy implications. Third, we build our own panel dataset and present descriptive statistics on recently arrived refugees and their dynamic integration outcomes. Between 2014 and 2017, Germany became one of the largest refugee-receiving countries in the developed world. We thus study a relevant case of refugee labour market integration. Labour market outcomes of refugees are also important in German and European politics, and may shape future political as well as economic outcomes (Dustmann et al. 2016).

The paper is structured as follows. The next section provides background information about the legal framework for refugees and asylum seekers in Germany. Section 3 explains the experimental set-up and Section 4 provides descriptive statistics on participants and their labour market experience. Section 5 presents the main empirical results, including heterogeneity analyses and a discussion of the possible channels behind our findings. Section 6 concludes.

2   Institutional setting

This section provides a brief overview of the legal framework that regulates the labour market access of refugees and asylum seekers in Germany. Legal uncertainties and the administrative process itself are likely to affect the labour market integration of refugees, in addition to individual characteristics such as language skills and matching frictions. During the asylum process, many asylum seekers (with the exception of those coming from 'safe countries of origin') have regular labour market access but are subject to several restrictions. Since 2014, asylum seekers are allowed to start working three months after their arrival in Germany. Three months is the typical length of stay in the initial reception centres in the federal state to which they were allocated by a distribution rule ("Königsteiner Schlüssel" in German). After three months,[7] they move into a new accommodation, so called community accommodation, which is located in the same state but might be in a different municipality. After this move, asylum seekers register with their new municipality and are eligible to receive a work permit. An asylum seeker can receive an actual work permit if he or she receives a job offer from a German employer and if this job offer is approved by the Foreigners Office. The approval is requested by the refugee and takes on average two weeks to obtain. The Foreigners Office checks that an adequate wage is paid ("salary review") and that there is no EU citizen that could be hired instead ("priority review"). An issued work permit is valid for a specific employment only and terminates with a job separa-

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[7]Due to space constraints, some asylum seekers stay in the initial reception centres for up to six months and during this time they are not allowed to take up employment.

tion.[8] The priority review and the prohibition to work for temporary employment agencies no longer apply to asylum seekers who have been in Germany for more than 15 months. Whereas some of the above restrictions were lifted for all asylum seekers in many German municipalities in 2016, in Munich all restrictions stayed in place.

The asylum application process is likely to influence expectations of both refugees and potential employers and, thereby, labour market integration. There are three possible outcomes of an asylum application. The applicant may be officially recognised as in need of asylum, either under the Geneva convention or the subsidiary protection regime. Alternatively, the application may be rejected but fall under the national ban on deportations (i.e. an individual is granted a 'tolerated' status - *'Duldung'* in German). Finally, the claim may be rejected and the applicant may face deportation. Recognised refugees have unlimited access to the labour market and are treated like German nationals in terms of employment laws.[9] Individuals granted a 'tolerated' status receive a temporary permission to stay in Germany (with a duration of one year, subject to re-examination). Individuals under this legal status are eligible to obtain a work permit and face the same restrictions as asylum seekers. Finally, rejected asylum seekers who do not obtain the temporary permission status lose their right to work and face potential deportation. In 2015-2017, the asylum process took about seven months on average, with significant variation depending on country of origin and time of arrival.[10]

3 Experimental setup

To study the role of matching frictions for the employment of refugees, we conduct a field experiment. The experiment involved close cooperation with a Munich-based NGO, which provides the job search assistance we try to evaluate. The NGO was founded in 2015 and at the time of our intervention counted six employees and about 20 part-time volunteers. It has been mainly financed through donations, and in 2016-2018 it had an annual budget of around 50,000 Euro. As one of its main activities, the NGO has conducted weekly job-counselling sessions in Munich to support job-seeking refugees with CV preparation and to advise them on basic legal and cultural specificities of the German labour market. In addition, the NGO has organised a number of support activities, including CV photo-shoots, computer classes, small-scale mentoring classes, and social activities. The NGO has established a network of local partners including the Munich Public Employment Agency and Job Centre, the Chamber of Commerce, other initiatives for refugees, and social workers. Through its network, as well as using direct online search, the

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[8]Work through temporary employment agencies, as well as self employment are not permitted for asylum seekers.

[9]In 2014-2017, about 68 percent of asylum applicants were recognised. Recognition rates vary by country of citizenship, from less than seven percent for Pakistan to 98 percent for Syrian nationals (Eurostat data).

[10]Much faster for Syrians (four months on average), much slower for nationals of Afghanistan (14 months), Pakistan and Iran (over 15 months). See the (AIDA Country Report for Germany). Procedures accelerated between 2014 and 2017.

NGO has received information about open vacancies. During the time of the experiment, our research group participated in all regular job-counselling sessions of the NGO and organised (on behalf of the NGO) a number of additional sessions at different locations in and around Munich.

The participants of our experiment were refugees who had recently arrived in Germany, were looking for employment, and voluntarily came to one of the NGO's job-counselling sessions. To comply with the data protection laws of Bavaria, every participant had to sign a data protection agreement (exact text can be accessed in our Online Appendix). All participants had to be eligible to obtain a work permit.[11] Participants include individuals with different legal status: asylum seekers, recognised refugees, and refugees in a 'tolerated' status. Participants had to be able to communicate in a language spoken by the members of the NGO or our research team. These languages included Arabic, Dari, English, Farsi, French, German, Italian, Kurdish and Russian and covered around 98 percent of the refugees that came to job-counselling sessions. Finally, participants had to be 18 years of age or older.[12] These restrictions, together with the fact that participants voluntarily took part in the sessions and were willing to enter the German labour market, imply that our sample is certainly not representative of the refugee population at large. We believe, however, that this is the relevant population for the evaluation of a job search assistance program, given that all programs of this type are targeted to individuals that are seeking employment and are allowed to work.

Our experimental set-up comprised three stages: the initial job-counselling meeting, the treatment stage, and the follow-up stage. During the first stage, together with the NGO, we interviewed the participants to collect the CV-relevant information and conduct baseline surveys. The treatment stage started closely after the initial meeting: we randomised new participants into two groups of the same size. Half of participants became eligible to receive additional job-matching services. The first follow-up survey took place six months after the initial job-counselling meeting.[13] The second follow-up survey started around twelve months after the initial meeting. For each participant, the experiment lasted for about one year, starting from the day of the initial job-couselling meeting with the NGO and ending on the day of the second follow-up survey. Our overall data collection period ran from May 2016 - the month of the first experimental job-counselling session - to September 2018 - the month when the participants who entered the experiment in September 2017 were interviewed for the second time. Figure 1 provides an overview of the stages of the experiment. The first stage is illustrated in green, the second stage in red and the third stage in blue.

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[11]As discussed above, asylum seekers usually can obtain a work permit three months after arrival, except individuals from "safe origin countries" (Bosnia-Herzegovina, Macedonia, Serbia, Montenegro, Albania, Kosovo, Ghana, Senegal). Asylum seekers from these countries were therefore excluded from the experiment.

[12]The NGO does not include under-age refugees in its target group. Additionally, the age restriction is necessary for us to obtain the participation consent. Refugees below the age of 18 cannot legally sign the data protection agreement.

[13]The exact timing for each participant depended on the date of the initial meeting, hence, all first follow-up surveys were conducted between November 2016 and March 2018.

Figure 1: **Timeline of the experiment**
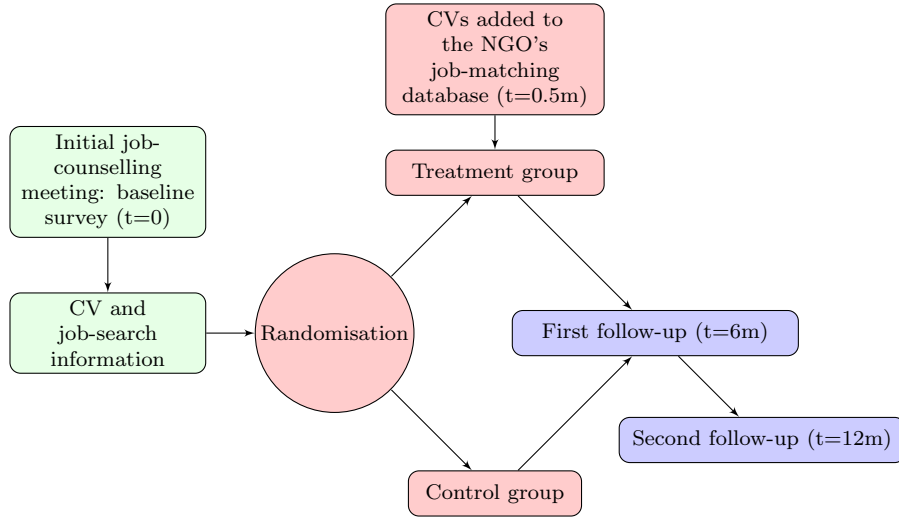
Our experimental design was approved by the Ethics commission of the Economics faculty at the University of Munich, and the pre-analysis plan was uploaded on the American Economic Association's registry for RCTs (AEARCTR-0001799) before we conducted our experiment. Our pre-analysis plan is also part of our Online Appendix.[14] There are certainly several limitations of our approach as well as concerns, which we discuss in Appendix B.

3.1   First stage: Initial job-counselling sessions

The first stage of the experiment consisted of job-counselling sessions, jointly organised by the NGO and our research team. The job-couselling meetings took place in Munich regularly from May 2016 until September 2017. Hence, our participants entered the experiment within this time period. The regular sessions took place once a week in the centre of Munich. In addition, we organised several sessions in a support centre for refugees (provided by Caritas) and in two big refugee accommodation facilities in Munich. The NGO advertised the sessions through social workers, Facebook, word of mouth, and partner organisations. The main incentives for refugees to participate in these sessions were receiving a CV in German (which they could then forward to employers or to the Job Centre), as well as acquiring basic information on the job search process.[15] During the job-counselling sessions, the interviewers (the volunteers of the NGO and our research team) conducted one-to-one interviews with refugees to collect the information needed to prepare their CVs. After collecting the CV data, the interviewers asked the questions of the baseline survey on search behaviour, salary expectations, job preferences and German

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[14]Link to our Online Appendix for those reading a hard copy: http://bit.ly/bgn2018_onlineappendix

[15]These were important services provided by the NGO in part thanks to our research team, and were likely to benefit all participants. However, our identification strategy does not allow to causally evaluate their effects.

language skills.[16] CVs were sent out to all participants by email two weeks after their session.[17] The message encouraged participants to search for a job on their own and to not rely on the NGO only, and included practical advice on how to look for a job.[18] The complete email text can be found in our Online Appendix.

3.2 Second Stage: Treatment Stage

After the initial meeting, we randomly assigned half of the participants to the treatment group. We added the CVs of the treatment group to the NGO's database for job-matching. Therefore, the employees of the NGO working on job-matching only had access to the information concerning individuals in the treatment group. The NGO's employees used this database to search for suitable candidates every time a new job vacancy arrived. The NGO usually found out about new vacancies through its network of social partners, the Munich public employment services, and the Chamber of Commerce. In addition to the available offers, the NGO employees specifically looked for other vacancies (online and through their personal networks) that could fit the candidates in the job-matching database. Once the NGO identified a potential match, it informed the candidate about the vacancy and, upon agreement, sent the CV to the employer. While this intervention reduced the matching frictions between employers and job seekers, it did not affect the skill set of participants. We believe that this allows us to interpret our results as driven by changes in frictions, not as the effect of changes in underlying skills.

To determine which candidates are allocated to the treatment and the control group, we randomised at the session level, so as to have the same number of participants in the treatment and in the control group for each session.[19] Since individuals in the same session were more likely to have similar characteristics,[20] we believe that this procedure provides a useful (albeit weak) stratification. We conducted our randomisation every two weeks, so that new profiles were added to the matching database twice a month. We thereby guaranteed a stable flow for the NGO and ensured that the treatment started at about the same time after the initial meeting with the participants.[21] Table A.1 in the Appendix presents a balance table on personal and labour market characteristics to provide evidence that the randomisation worked reasonably well (given our sample size) and created two comparable groups.

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[16]The complete baseline survey can be found in our Online Appendix.

[17]If participants did not have an email address, the NGO sent it to them as a pdf attachment via the text messaging application "WhatsApp" and, if possible, to the responsible social worker.

[18]How to register with the public employment services and to search on websites that publish vacancies such as *monster.de* and *stepstone.de*.

[19]In practice, participants were ranked by a random number generator and the upper 50 percent of participants were allocated to the treatment. If the number of candidates was odd, the additional person was randomly allocated to the control or the treatment group.

[20]People who attended the regular job-counselling sessions in the centre of Munich were likely to differ from those who got interviewed directly in their accommodation facilities, while participants from different accommodations might have had access to varying degrees of support services through local social workers and NGOs.

[21]On average, every week we met with 15 new job seekers during the job-counselling sessions.

For each participant, the treatment stage ran until the second follow-up survey (i.e. one year after the initial job-counselling meeting). Once the second follow-up survey was completed, the profiles of the control-group participants were also added to the job-matching database. During the treatment stage, participants in both treatment and control group had full access to all other NGO services and activities.

3.3 Third Stage: Follow-up surveys

During the third stage (which partly overlapped with the treatment stage), we tried to contact all participants from the treatment and control groups six months and one year after the initial job-counselling session. The first follow-up was conducted between November 2016 and March 2018. The second follow-up survey was conducted until September 2018. We asked participants about their labour market experience in Germany and more broadly about their economic and social integration. Our research team contacted the participants by phone. We asked participants about their job search behaviour and challenges, integration outcomes and progress in studying German. Participants who found a job were also asked specific questions about that job.[22].

4 Descriptive statistics

This section presents descriptive statistics on the individual characteristics of our participants, their job search behaviour and expectations during the baseline survey.

4.1 Personal characteristics

Table 1 shows baseline characteristics of participants: gender, age, family situation, months spent in Germany, education, knowledge of German and English, status of the asylum application, and initial intentions to return. Countries of origin with more than seventy observations are listed separately (Afghanistan, Nigeria, Syria). Other African[23] and Asian[24] countries are grouped. Table 1 shows that most participants are young unmarried men without children. Two thirds come from three countries of origin: Nigeria, Syria, and Afghanistan. The majority arrived in 2015 and, on average, had been in Germany for ten months at the time of the baseline survey. On average, the survey participants have 11 years of schooling; 50 percent graduated from a middle or a high school and 30 percent have attended a university. Five percent of the participants have no formal education.[25]

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[22] The text of the follow-up questionnaires can be found in our Online Appendix

[23]Other African country include: Congo, Eritrea, Mali, Sierra Leone, Somalia, Tanzania and Uganda.

[24]Other Asian countries include China, Iran, Iraq, Jordan, Myanmar, Pakistan, Palestine, Turkey and the United Arab Emirates.

[25]The only representative dataset on the characteristics of recently arrived refugees in Germany was collected by IAB, BAMF and SOEP. Brücker et al. (2018) report on education levels, labour market history, expectations and integration of around 4,500 refugees in Germany. Compared to that survey, the sample of job seekers in our

Table 1: **Descriptive statistics by country at baseline**

	Afghanistan	Nigeria	Syria	Other Africa	Other Asia	Total
Female	0.0411	0.0753	0.0120	0.113	0.0385	0.0577
Age	24.17	28.27	31.15	26.01	29.74	27.84
Married	0.219	0.226	0.313	0.200	0.288	0.247
Family in Germany	0.356	0.183	0.434	0.138	0.231	0.268
Have children	0.137	0.258	0.241	0.300	0.327	0.249
Months in Germany	10.44	7.430	13.54	10.04	10.27	10.27
No schooling	0.0411	0.0430	0.0120	0.113	0.0385	0.0499
Primary completed	0.0959	0.226	0.0964	0.188	0.192	0.160
Secondary started	0.219	0.140	0.108	0.200	0.212	0.171
Secondary completed	0.384	0.484	0.169	0.300	0.212	0.320
Attended university	0.260	0.108	0.614	0.200	0.346	0.299
German>=B1	0.205	0.0215	0.301	0.138	0.154	0.160
English>=B1	0.151	0.710	0.325	0.625	0.346	0.451
Asylum seeker	0.959	0.914	0.410	0.887	0.865	0.801
Recognised	0.0411	0.0645	0.590	0.113	0.115	0.192
Registered with PES	0.274	0.204	0.349	0.188	0.308	0.260
Intention to return	0.322	0.269	0.458	0.250	0.250	0.314
Treatment	0.438	0.516	0.494	0.500	0.577	0.501
Observations	73	93	83	80	52	381

Note: Baseline refers to the initial job-counselling session. Countries of origin with more that 70 observations are listed separately (Afghanistan, Nigeria, Syria). Other African countries include: Congo, Eritrea, Mali, Sierra Leone, Somalia, Tanzania and Uganda. Other Asian countries include China, Iran, Iraq, Jordan, Myanmar, Pakistan, Palestine, Turkey and the United Arab Emirates. The summary statistics is provided for individuals with non-missing values for all variables. PES stands for public employment services.

Educational levels differ greatly between countries of origin. Refugees from countries that until recently had a well-functioning educational system, for instance Syria, have relatively high levels of education. The average years of education for Syrian refugees is 13.8 years and only one percent report no schooling, while more than 60 percent of Syrians have attended university. Participants from poorer countries and countries with prolonged conflicts, such as Afghanistan and Iraq, have lower educational attainments. At the time of the first meeting with the NGO, 16 percent of participants could speak German at a level of B1 or higher.[26] As Table 1 illustrates,

study is positively selected. On average, 13 percent of the IAB-BAMF-SOEP survey participants have no formal education, 61 percent graduated from a middle or high school, and 11 percent attended a university (Brücker et al. 2018).

[26]B1 is a level of German in a European-wide classification system that describes an intermediate level that allows to understand the central points of texts and talks in normal language and to cope with everyday situations

at the time of the first meeting, only 19 percent completed their asylum procedure (among Syrians, on the other hand, 59 percent had already received a positive decision).

4.2 Job search behaviour and expectations

In addition to standard background characteristics, our survey included questions on job search behaviour and expectations concerning labour market participation in Germany. Around half of the refugees report that they have already looked for work before attending the initial job counselling session. Figure 2 shows what refugees perceive as their difficulties during job search. One fourth of participants indicate that they do not know where to search for a job. This is the second largest difficulty after the language barrier (54 percent).

Figure 2: **Difficulties during job search, baseline survey**
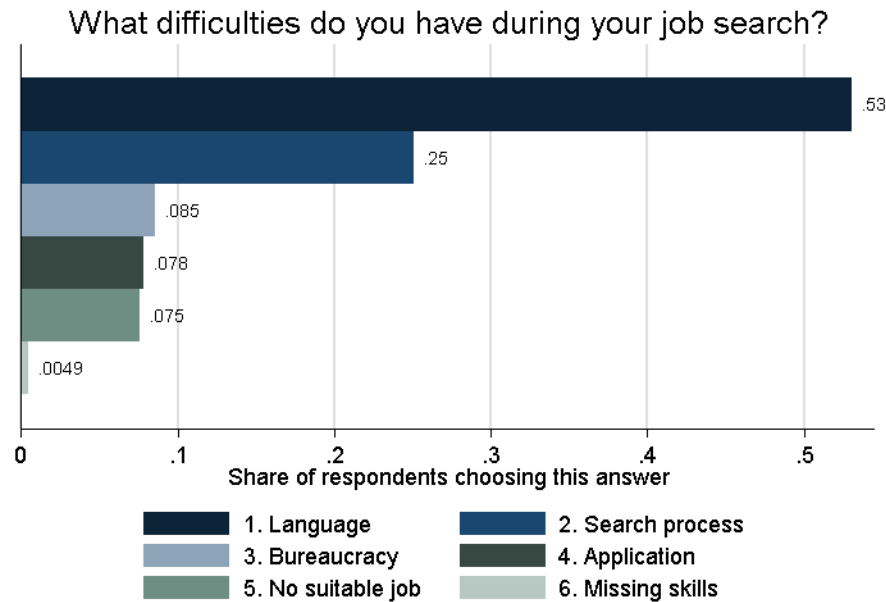
Note: This figure shows the share of individuals who report to face the above difficulties during their job search. The respondents could choose several answers. The legend is numbered according to bar descending order.

Figure 3 shows that the most common ways to search for work are to ask friends (24 percent) or to directly approach employers (21 percent). About a quarter of refugees have registered as looking for work with the Munich public employment services and 17 percent report to use these services to find work. Relatively few (21 percent) search for work online. There is, however, large heterogeneity across nationalities, as shown in Table 2. For instance, while almost 50 percent of Syrians use the Internet during their job search, only 6.5 percent of Afghans do so. Many participants report the unavailability of school, university or vocational certificates: 69 percent of individuals do not have the original certificate of their highest degree with them in

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at work. It is the language level that is required for most jobs.

Germany. This share is lower for those who attended university (29 percent) and those who graduated from university (33 percent). The unavailability of original documents is likely to pose a challenge for the further academic or professional careers of refugees.

Figure 3: **Job search channels, baseline survey**
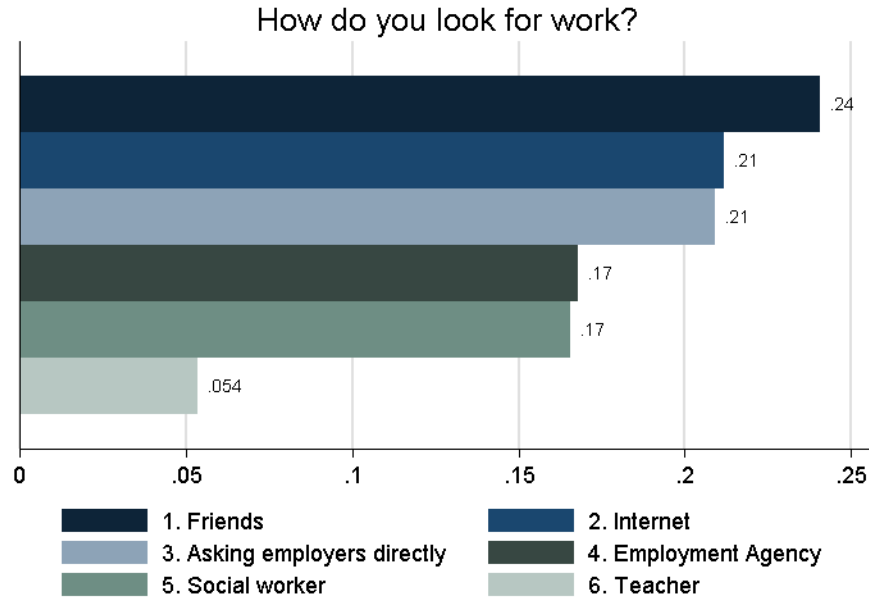

Note: This figure shows the share of individuals who have used the above channels during their job search. The respondents could choose more than one answer. The legend is numbered according to bar descending order.

We also asked refugees about wage expectations in Germany. On average, they report that they would accept a job that pays at least 1,330 Euro per month (after tax). At the same time, 65 percent report to be willing to work for less than the minimum wage. This again varies by country of origin. The average proxy for the reservation wage is 1,660 Euros for Afghans, around 1,400 for Syrians, around 1,200 Euros for Nigerians. The descriptive statistics from our baseline survey shows that refugees perceive both missing skills, mainly language skills, and difficulties in their job search as obstacles to enter the labour market. We evaluate a programme that aims at alleviating the latter. In the next section, we investigate the effects of our intervention on participants' contacts with German employers and on their employment outcomes after six and twelve months since the start of the experiment.

Table 2: **Job search behaviour by country, baseline survey**

	Afghanistan	Nigeria	Syria	Other Africa	Other Asia	Total
Employed	0.0645	0.0595	0.181	0.0725	0.0870	0.0959
Received an offer	0.226	0.167	0.313	0.174	0.174	0.215
Contact with employer	0.274	0.155	0.349	0.159	0.283	0.241
Min wage to accept an offer	1659.7	1187.6	1395.4	1096.6	1348.9	1326.1
Difficulty: Language	0.516	0.536	0.675	0.362	0.630	0.544
Difficult: Search process	0.242	0.155	0.241	0.290	0.283	0.235
Search with PES	0.129	0.179	0.217	0.116	0.196	0.169
Search in Internet	0.0645	0.179	0.470	0.145	0.196	0.224
Ask social worker	0.0806	0.226	0.157	0.130	0.239	0.166
Directly approach employers	0.194	0.226	0.277	0.0290	0.370	0.212
Ask friends	0.194	0.179	0.422	0.174	0.174	0.238
Observations	62	84	83	69	46	344

Note: Countries of origin with more that 70 observations are listed separately (Afghanistan, Nigeria, Syria). Other African countries include: Congo, Eritrea, Mali, Sierra Leone, Somalia, Tanzania and Uganda. Other Asian countries include Iran, Iraq, Pakistan, Palestine and the United Arab Emirates. The total estimates slightly differ from those presented above as we consider only observations with non-missing values for all reported variables.

5 Results

The following results come from the first and second follow-up surveys that we conducted from November 2016 to September 2018. Over this time, we completed 302 first follow-up surveys and 187 second follow-up surveys. Our research assistants conducted the follow-up surveys in the native language (Arabic, Dari, Pashto) of the refugees, or in English or German. We contacted the participants by phone six and twelve months after the initial meeting to question them about their current labour market status.[27] If they found work, we asked them about the details of their work, how they found it and how satisfied they are with different aspects of their work. If they did not find work, we asked them about their search behaviour and experiences so far. If they were neither working nor looking for work at the time of the follow-up, we asked them about the reason for being out of the labour force. We have reached about 70 percent of participants for the first follow-up survey and about 44 percent of participants for the second follow-up. As Figure A.1 in the Appendix shows, there are no significant differences in response rates among treatment and control groups.

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[27]We have no opportunity to independently verify the obtained information, except in a few cases in which the NGO is in contact with the employer. We assume that the obtained information is correct as the refugees have very little incentives to lie and can benefit from obtaining an updated CV.

5.1 Descriptive results from follow-up surveys

Figure 4 shows how the main outcomes of interest change over time. The left panel reports the share of participants who were in a work-related contact (i.e. interview, job offer, or employment) with a German employer. The right panel shows the average employment rate in our sample over time. For this descriptive exercise, we pull treatment and control groups together.

Over time, refugees' labour market activity on average increases. At the baseline, only 24 percent of participants reported to have had a work-related contact with a German employer. This number rises to 40 percent after six months and to 55 percent after 12 months. Similarly, employment rises from below 10 percent at the baseline to 23 percent after six months and 41 percent after 12 months. There is thus a clear positive trend in both contact with employers and actual employment for all participants. However, only half of employed refugees in our sample have full-time positions. Furthermore, around half of those employed work in cleaning, personal care, or gastronomy. According to participants' responses, missing language skills and a lack of information about the application process continue to prevent a more successful and faster labour market integration.

Figure 4: **Contact with employer and employment over time**
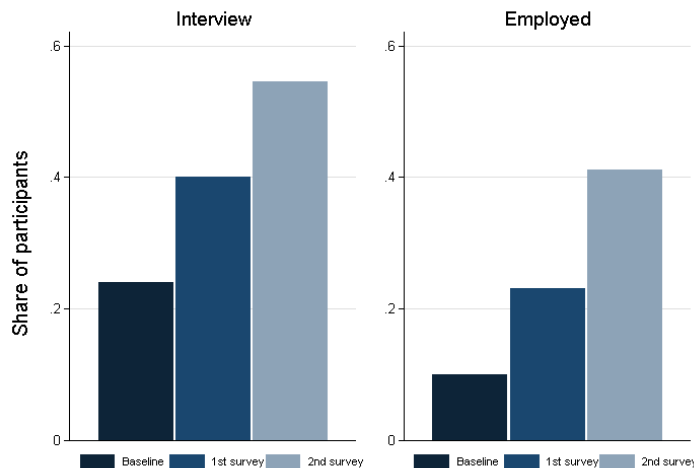
Note: This figure shows the share of individuals reporting to have had at least one contact with a German employer (*Interview* denotes any work-related contact: a job interview, job offer, or employment) or to be employed at the baseline (n = 411), time of the first follow-up survey (n=302) and second follow-up survey (n=187) after. The pattern holds also when we restrict the sample to participants with completed second follow-up surveys.

5.2 Treatment effects after six months

Table 3 presents OLS regressions of the main outcomes - contact with employer and employment - on the treatment variable. Column (1) and (4) include no control variables. Column (2) and (5) include only origin (grouped into five categories) fixed effects and months since arrival at

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Table 3: **Contact with employer and employment, first follow-up survey (six months after start of treatment)**

Dependent variables	(1) Interview	(2) Interview	(3) Interview	(4) Employed	(5) Employed	(6) Employed
Treatment	-0.00804	0.00201	-0.000185	-0.0596	-0.0554	-0.0493
	(0.0571)	(0.0580)	(0.0560)	(0.0487)	(0.0493)	(0.0488)
Medium-educated			0.111			0.0761
			(0.0734)			(0.0640)
High-educated			0.215**			0.0538
			(0.0845)			(0.0737)
German			0.129			0.0851
			(0.0812)			(0.0708)
Recognised			0.0335			0.206**
			(0.0984)			(0.0859)
Observations	296	296	296	296	296	296
R-squared	0.000	0.018	0.182	0.005	0.027	0.148
Ymean control	0.403	0.403	0.403	0.257	0.257	0.257
Ysd control	0.492	0.492	0.492	0.438	0.438	0.438
Time since arrival		Yes	Yes		Yes	Yes
Origin FE		Yes	Yes		Yes	Yes
Interviewer FE			Yes			Yes

Note: Dependent variables: *Interview* denotes any work-related contact with a German employer (i.e. for a job interview, job offer or employment); *Employed* is a dummy that equals one if a participant has a full-time or part-time job, undergoes training (Ausbildung) or has an internship. *German* denotes knowledge of German of B1 or higher at the baseline. *Recognised* takes the value of one if a participant was already a recognised refugee at the baseline. *Time since arrival* measures the number of months after arrival in Germany at the baseline. Standard errors in brackets; *** p<0.01, ** p<0.05, * p<0.1.

the baseline (grouped into three categories) fixed effects. Column (3) and (6) include additional controls related to education, language skills and asylum status at the baseline. After six months, the effect of our treatment is very close to zero and statistically insignificant both for having any work-related contact with a German employer (i.e. for a job interview, job offer or work) and for employment. Controls have the expected sign: the probability of a work-related contact and employment increases in education and knowledge of German at the baseline and is higher for recognised refugees. Our evidence suggests that the job search assistance services of the NGO did not have a short-term impact. Hence, while matching frictions do present an obstacle to employment, other constraints (such as missing qualifications, German skills or uncertain legal status) are likely to hinder successful job matching in the short run.[28]

5.3 Treatment effects after twelve months

Table 4 presents unconditional and conditional treatment effects twelve months after the start of the treatment. As in the previous table, column (1) and (4) include no control variables, column (2) and (5) include only origin and months since arrival fixed effects and column (3) and (6) include additional controls. Effects of the intervention both for work-related contact

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[28]As our outcome variables are binary, we also run logit regressions. Table A.3 in the Appendix shows the results with logit regressions. Qualitatively, results are similar to those of OLS regressions.

Table 4: **Contact with employer and employment, second follow-up survey (twelve months after start of treatment)**

Dependent variables	(1) Interview	(2) Interview	(3) Interview	(4) Employed	(5) Employed	(6) Employed
Treatment	0.0492	0.0903	0.0819	0.0862	0.130*	0.135*
	(0.0744)	(0.0733)	(0.0744)	(0.0729)	(0.0701)	(0.0716)
Medium-educated			0.0856			0.0291
			(0.102)			(0.0981)
High-educated			0.177			0.0843
			(0.113)			(0.108)
German			-0.0847			-0.0776
			(0.110)			(0.105)
Recognised			-0.0640			-0.0457
			(0.123)			(0.118)
Observations	182	182	182	182	182	182
R-squared	0.002	0.091	0.133	0.008	0.140	0.170
Ymean control	0.520	0.520	0.520	0.370	0.370	0.370
Ysd control	0.502	0.502	0.502	0.485	0.485	0.485
Time since arrival		Yes	Yes		Yes	Yes
Origin FE		Yes	Yes		Yes	Yes
Interviewer FE			Yes			Yes

Note: Dependent variables: *Interview* denotes any work-related contact with a German employer (i.e. for a job interview, job offer or employment); *Employed* is a dummy that equals one if a participant has a full-time or part-time job, undergoes training (Ausbildung) or has an internship. *German* denotes knowledge of German of B1 or higher at the baseline. *Recognised* takes the value of one if a participant was already a recognised refugee at the baseline. *Time since arrival* measures the number of months after arrival in Germany at the baseline. Standard errors in brackets; *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

with an employer and for employment are larger in magnitude compared to the results after six months. Effects on work-related contacts are relatively large but not statistically significant due to limited power. In the case of employment, effects are significant once we include origin and months since arrival fixed effects. Our results suggest that the job-matching treatment increases the probability of employment by 13 percentage points, which is around a third of the average employment rate in our sample.[29] Since the sample for the second follow-up survey is smaller than the sample with completed first follow-up surveys, one might be concerned that the treatment effects after twelve months are driven by the endogenous selection of participants into the second follow-up survey despite similar average response rates between treatment and control groups. We thus re-run the regressions with the data from the first follow-up survey but limiting the sample only to the participants who we also managed to contact after twelve months (see Table A.2 in the Appendix). As for the full sample, we find no significant treatment effect on work-related contacts or employment after the first six months.

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[29]Table A.4 in our Appendix shows that the results are robust to using logit regressions instead of a linear probability model.

Table 5: **Contact with employer and employment, second follow-up survey (twelve months after start of treatment), by education**

Dependent variables Educational group	(1) Interview Low	(2) Interview Medium	(3) Interview High	(4) Employed Low	(5) Employed Medium	(6) Employed High
Treatment	0.207*	0.0949	0.127	0.312**	0.0907	0.166
	(0.110)	(0.107)	(0.115)	(0.136)	(0.101)	(0.113)
Syria	0.668**	0.284	0.388*	0.334	0.210	0.538***
	(0.291)	(0.196)	(0.204)	(0.327)	(0.206)	(0.190)
Nigeria	0.582**	0.286	-0.0429	0.397	0.122	-0.197
	(0.271)	(0.176)	(0.297)	(0.305)	(0.188)	(0.172)
Afghanistan	0.603*	0.464**	-0.127	0.656*	0.351	0.0316
	(0.315)	(0.203)	(0.233)	(0.324)	(0.215)	(0.205)
Rest of Africa	0.144	0.338*	0.0350	0.0908	-0.0333	0.288
	(0.245)	(0.195)	(0.237)	(0.259)	(0.200)	(0.206)
Observations	33	89	60	33	89	60
R-squared	0.495	0.094	0.242	0.396	0.133	0.369
Time since arrival	Yes	Yes	Yes	Yes	Yes	Yes
Ymean control	0.509	0.528	0.550	0.377	0.380	0.403
Ysd control	0.502	0.501	0.499	0.487	0.487	0.492

Note: Dependent variables: *Interview* denotes any work-related contact with a German employer (i.e. for a job interview, job offer or employment); *Employed* is a dummy that equals one if a participant has a full-time or part-time job, undergoes training (Ausbildung) or has an internship. *Time since arrival* measures the number of months after arrival in Germany at the baseline. Adding controls for German and recognised status at the baseline does not affect our results. Standard errors in brackets; *** p<0.01, ** p<0.05, * p<0.1.

5.4 Heterogeneous effects by education

Investigating heterogeneity of our results can be informative about mechanisms of the treatment.[30] In the analysis below, we first split the sample by education groups. Table 5 presents OLS results.[31] It shows that individuals with lower levels of education (i.e. no high school diploma) have treatment effects that are around twice as large compared to those with medium and high levels of education. This finding holds both in terms of work-related contacts and employment outcomes. This result may be due to the relative abundance of jobs for individuals with lower levels of formal education coupled with higher frictions for lower educated refugees, who are less likely to know about the job search process in Germany. For instance, according to our baseline survey, less than ten percent of lower educated refugees search for jobs online (compared to 24 percent among medium and highly educated refugees). Therefore, they are likely to benefit more from the treatment.

5.5 Heterogeneous effects by legal status

Next, we split the sample by legal status at the time of the second follow-up survey. Table 6 presents OLS results.[32] Receiving the asylum status has important implications for the labour

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[30]These subgroup analyses were specified in the pre-analysis plan.

[31]Table A.5 in the appendix presents corresponding logit results.

[32]In the Appendix we show logit results on Table A.6. Results are robust to using logit regressions.

Table 6: **Contact with employer and employment, second follow-up survey (twelve months after start of treatment), by status**

Dependent variables Group	(1) Interview Not recognised	(2) Interview recognised	(3) Employed Not recognised	(4) Employed recognised
Treatment	0.173*	-0.0877	0.199**	-0.0603
	(0.0894)	(0.129)	(0.0805)	(0.143)
Syria	0.445***	0.498**	0.618***	0.380*
	(0.149)	(0.220)	(0.145)	(0.223)
Nigeria	0.0286	0.118	-0.0260	-0.0142
	(0.135)	(0.319)	(0.130)	(0.320)
Afghanistan	0.0689	0.583*	0.172	0.330
	(0.153)	(0.326)	(0.145)	(0.358)
Rest of Africa	-0.135	0.418	-0.169	0.304
	(0.147)	(0.276)	(0.132)	(0.278)
Observations	125	61	125	61
R-squared	0.078	0.188	0.185	0.098
Time since arrival	Yes	Yes	Yes	Yes
Ymean control	0.540	0.532	0.399	0.395
Ysd control	0.500	0.501	0.491	0.491

Note: Dependent variables: *Interview* denotes any work-related contact with a German employer (i.e. for a job interview, job offer or employment); *Employed* is a dummy that equals one if a participant has a full-time or part-time job, undergoes training (Ausbildung) or has an internship. *Time since arrival* measures the number of months after arrival in Germany at the baseline. Adding controls for German and education level at the baseline does not affect our results. Standard errors in brackets; *** p<0.01, ** p<0.05, * p<0.1.

market access of refugees. Being recognised, a refugee faces no legal barriers to enter the labour market and has full access to the services of the PES. Recognised refugees also hold residency permits with a longer validity, which makes it less risky for firms to hire them. Interestingly, we find that our overall positive treatment effects are concentrated among individuals who are not yet recognised. At the time of the second follow-up survey, some participants were still waiting for the decision, while the majority of the 'unrecognised' group comprised rejected asylum seekers who were granted a 'tolerated' status. For these individuals, both effects on work-related contacts and on employment are large and significant. Refugees without approved asylum status possess a temporary residence permit and are allowed to work provided they receive a work permit from the Foreigners Office.[33] Employers might not be aware of all legal formalities and perceive hiring unrecognised refugees as expensive (below, we provide some suggestive evidence for this). Our results are also consistent with the view that the PES as well as other initiatives focus on recognised refugees, who indeed have on average higher employment rates. Therefore, for those who are not recognised, the role of the NGO we work with is relatively more important.

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[33]While 'priority review' no longer applies to those residing in Germany for more than 15 months, a formal approval to obtain the work permit is still required.

5.6 Treatment in practice and possible mechanisms

Within the literature evaluating different types of active labour market programmes, it is often hard for the researchers to have information on the practical details of the intervention, which is very important for our understanding of its mechanisms and for replicability. We have been in close contact with the NGO and have access to the internal database, which includes information about job seekers, available vacancies, job matches, as well as participation in other activities, such as job-preparation classes, computer courses, and mentorship programmes.[34]

First, we can use this data to verify that the randmisation worked as intended. Figure 5 shows, indeed the NGO generated 'matches' (with employers) only for individuals in the treatment group.[35] We can then investigate the distribution of matches. From May 2016 until September 2018, the NGO matched 112 treated participants to at least one job vacancy. Conditional on being matched, a participant received on average almost two job matches. [36] Participation rates in other NGO's activities are not statistically different for control and treatment groups. This reassures that our intervention affected matching frictions only and not the skills of refugees.

Next, we use information on the actual job matches from the NGO dataset to shed some light on the mechanisms of our treatment and provide possible explanations for the timing and the heterogeneity results. For instance, we see that a substantial number of job matches took place already prior to the first follow-up survey (62 out of 112 participants were already matched between the baseline and the first follow-up surveys). Hence, the absence of the effect after six months cannot be due to low job-matching activities by the NGO in the first months of our study, but rather due to other factors, such as insufficient language skills, or simply that effects take time to materialise.

Stronger effects among low-educated and unrecognised refugees could arise if the NGO matched treated individuals from this group more often. However, as table A.7 shows, while treated low-educated individuals indeed have relatively more job matches, treated unrecognised refugees are actually less likely to be matched than those with a secure residence status. Thus, the heterogeneity of our results is not fully driven by selective job-matching of the NGO. Instead, the provided treatment appears to be relatively more important for participants with lower education or unrecognised status.

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[34]The job-matching database was part of this bigger information system. Due to the technical issues (moving to another platform), the NGO could not make direct records in the job-matching database in the period from October 2017 to March 2018. For this period, however, we retrieved the information on job-matching from the NGO's mailbox. The NGO started to record the information on other activities from December 2017.

[35]A 'match' in our setting is a record in the database that a job seeker was informed about a job vacancy; in most cases, upon agreement of the job seeker, this was followed by sending the CV to the employer.

[36]We observe only one case of non-compliance when a participant from the control was mistakenly matched before the second follow-up took place. We kept this observation in the main sample. For robustness we ran all the regressions dropping this observation, and results are virtually identical. A possible reason for this mistake was that two participants had the exact same first and last name.

Figure 5: **Treatment by the NGO**
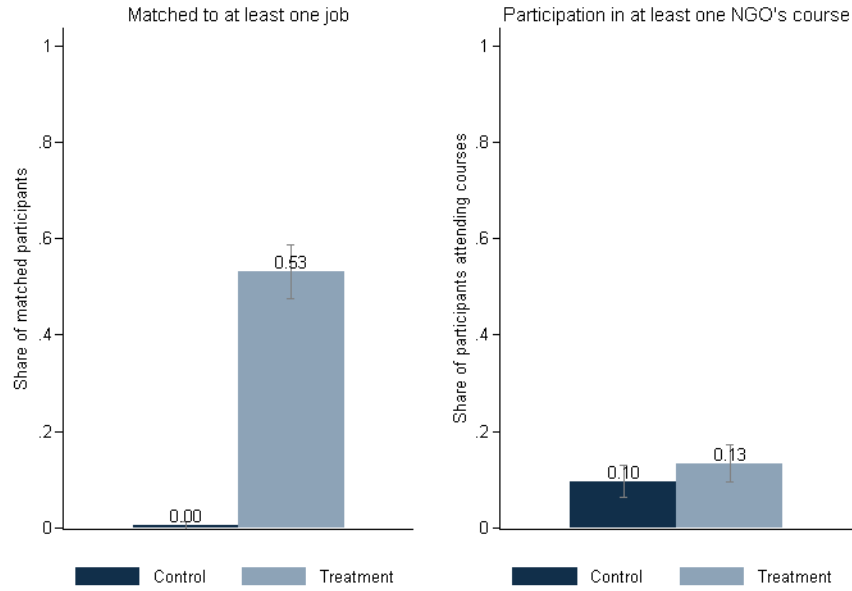
Note: This figure shows the share of individuals (from treatment and control group) who were matched to at least one vacancy by the NGO and who participated in at least one course offered. The data come from the NGO's internal database. It is matched to our dataset through unique IDs. For mailbox data, the observations are matched by name.

One possible reason for a stronger effect among lower educated and unrecognised refugees is that on average individuals in these groups do not exert enough search effort, for example, due to uncertainty about the future legal status (for unrecognised refugees) or the lack of knowledge about the job search process (for low-educated refugees). In this case, relatively more job opportunities would be generated by the NGO. To check whether this could drive our results, we limit the sample to individuals who reported to have sent at least one CV (or at least five CVs).[37] If low personal effort was driving the result, the effect of the treatment should become lower. The obtained coefficients, however, remain statistically similar (see Table A.8). The intervention could also help alleviate frictions outside of the refugees' control. Job applications of unrecognised refugees may be disregarded by employers due to legal difficulties in hiring them and uncertainty around their residence permit status. Having received a CV of such an applicant from the NGO, the employers could be encouraged to proceed with an interview while knowing that they can get advice and support from the NGO if necessary. Another possibility is a reputation effect: employers could have interpreted the CV sent by the NGO as a positive signal of ability or reliability, perhaps as a sort of referral to the job seeker, despite the fact that CVs for both control and treatment had the same formatting and logo. Such referral would be then especially beneficial to lower educated refugees whose skills are more difficult to verify while

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[37]We take responses about search effort as of the first follow-up, because the majority of those who were already employed at the time of the second follow-up survey skipped this question.

assessing the job application. Finally, our findings could stem from the fact that lower educated and unrecognised refugees lack alternative means of support in the labour market. While many programmes have been developed over the recent years to foster integration of refugees (for example a programme called Joblinge that is active in Munich or the programmes by the Job Centres from the PES), most of them have strict selection criteria either in terms of legal status or education requirements.

At the end of 2016, the NGO has done a small online survey of companies that hired their candidates with the purpose of improving their services. Only five companies responded but they provide some anecdotal evidence. All companies see missing language skills as the main barrier to hiring. In addition, two out of five companies perceive the risk of rejected asylum and deportation as a barrier to employment and two out of five consider the additional work for HR problematic. The same number of firms perceive missing skills of refugees as a barrier to hiring, thus putting equal value. These findings are in line with a larger survey conducted by the ifo Institute. When asked about tips for other employers when hiring refugees, some mentioned that the PES were not sufficient for their search of potential employees. While this evidence is entirely anecdotal, it does point toward a possible lack of alternative support programmes and the importance of matching frictions.

6   Conclusion

This paper provides new insights into the labour market integration of recently arrived refugees in Germany. In particular, we find that beyond the possible lack of language skills and professional qualifications, matching frictions are likely to undermine refugees' entry into the labour market. Our analysis shows that indeed matching frictions are likely to have an impact. There may be scope to increase the employment of certain groups of refugees by providing relatively inexpensive job search assistance. Individuals with lower levels of education and individuals who are not yet recognised as refugees may benefit the most. They may face relatively high matching frictions, due to the lack of alternative job search support. In addition, these individuals may be disregarded by employers due to perceived higher hiring and screening costs.

Ultimately, whether a programme similar to the one we evaluate should be implemented elsewhere depends on its cost. A complete cost-benefit analysis is outside the scope of this work. However, since we have been in close contact with the NGO it is possible to provide some back-of-the-envelope calculations, which may be of interest. The cost of the treatment, i.e. the matching of CVs to firms, is equal to one part-time staff member of the NGO for the duration of the treatment. This person is hired to network with firms, identify potential vacancies, search for suitable candidates in the database of the NGO and send their CVs to the firms. We can assume personnel costs of around 1,000 Euro per month for 16 months, resulting in a total cost of 16,000 Euro, for around 200 treated refugees. The treatment results in a job-finding rate that

is approximately ten percentage points higher than the control group, i.e. around 20 additional jobs.[38] Therefore, it costs roughly 800 Euro to bring one refugee into employment. The benefits of the treatment are hard to quantify as they depend on the type of job but if we assume that the job covers living expenses and reduces the dependency on social welfare, then costs would be covered after approximately two months (German basic social welfare payments consist of at least 400 Euro monthly).

In Germany and elsewhere, there are alternative providers of such services. In Germany, 'Job Centres' have the task of supporting recognised refugees in their job search. Another branch inside the PES is responsible for supporting asylum seekers who are not recognised yet, but come from a country with high recognition chances. Asylum seekers from countries with low recognition rates do not receive support. Therefore, the treatment we analyse provides a significant value added, especially for these individuals. Refugees also reported that communication with the NGO is easier due to staff speaking their native language and having more time to explain and advise individually. We believe that it would be possible to up-scale this type of intervention. Many other NGOs support the labour market integration of refugees in different locations, and we do not see any reason why similar interventions would be hard to implement. We performed the intervention in a labour market with very low overall unemployment rates and ample job opportunities. This may certainly impact the magnitude of the results.

This paper focuses primarily on employment effects. Further research is needed to investigate whether faster labour market access also triggers better social integration and language improvements thanks to exposure to the language on the job. At the same time, some types of early employment may trap refugees into low-wage employment with few chances to 'climb the ladder' and no time to learn German. Which of these forces prevails is likely to depend on the type of job refugees find.

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[38]Here we make an assumption that the treatment results would hold also for refugees whom we could not reach during the second follow-up survey. This is likely to be a lower bound since we are not yet able to evaluate effects that take more than a year to materialise, and since there might be other positive effects from the treatment. On the other hand, the costs of course depend on the personnel costs, which may be different depending on the contractual arrangements of the body that offers these services.

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Appendix

A   Additional Tables and Figures

Table A.1: **Balance table**

	(1) Treatment $= 0$	(2) Treatment $= 1$	(3) Diff. T-C
Female	0.0640	0.0531	-0.01
	[0.245]	[0.225]	
Age	27.09	28.36	1.27
	[7.453]	[7.327]	
Married	0.217	0.257	0.04
	[0.413]	[0.438]	
Family in Germany	0.259	0.267	0.01
	[0.439]	[0.443]	
Have children	0.228	0.262	0.03
	[0.421]	[0.441]	
Months in Germany	10.17	10.19	0.01
	[8.423]	[9.269]	
No schooling	0.0640	0.0388	-0.03
	[0.245]	[0.194]	
Primary completed	0.153	0.175	0.02
	[0.361]	[0.381]	
Secondary completed	0.325	0.330	0.00
	[0.470]	[0.471]	
Attended university	0.266	0.316	0.05
	[0.443]	[0.466]	
German>=B1	0.167	0.150	-0.02
	[0.374]	[0.358]	
English>=B1	0.473	0.454	-0.02
	[0.500]	[0.499]	
Asylum seeker	0.808	0.812	0.00
	[0.395]	[0.392]	
Recognised	0.182	0.184	0.00
	[0.387]	[0.388]	
Registered with PES	0.254	0.262	0.01
	[0.436]	[0.441]	
Intention to return	0.291	0.338	0.05
	[0.405]	[0.423]	
Employed	0.0881	0.103	0.01
	[0.284]	[0.304]	
Received an offer	0.259	0.179	-0.08
	[0.439]	[0.385]	
Contact with employer	0.233	0.236	0.00
	[0.424]	[0.426]	
Min wage to accept an offer	1,301	1,351	49.57
	[560.5]	[717.4]	
Integration index, 0-5	2.591	2.472	-0.12
	[1.132]	[1.143]	
Learning German: hours/week	8.456	9.242	0.79
	[7.360]	[8.447]	
Observations	168	170	338

Note: This table shows average values for the treatment and the control group and their differences for all relevant variables in Column 3. Standard errors are reported in brackets. * $p<0.10$, ** $p<0.05$, *** $p<0.01$. The number of observations is smaller than our main sample because it corresponds to observations with all non-missing variables.

Table A.2: **Contact with employer and employment, first follow-up survey (six months after the first meeting), the sample is limited to participants with completed second follow-up**

Dependent variables	(1) Interview	(2) Interview	(3) Interview	(4) Employed	(5) Employed	(6) Employed
Treatment	0.0779	0.0982	0.0660	-0.0610	-0.0566	-0.0740
	(0.0756)	(0.0771)	(0.0783)	(0.0626)	(0.0636)	(0.0663)
Medium educated, isced 2-3			0.109			0.122
			(0.109)			(0.0925)
Highly educated, isced 4-5			0.202*			0.0720
			(0.120)			(0.102)
German			0.112			0.0867
			(0.117)			(0.0994)
Recognised			0.0331			-0.0294
			(0.144)			(0.122)
Observations	169	169	169	169	169	169
R-squared	0.006	0.039	0.159	0.006	0.049	0.121
Ymean control	0.360	0.360	0.360	0.236	0.236	0.236
Ysd control	0.483	0.483	0.483	0.427	0.427	0.427
Time since arrival		Yes	Yes		Yes	Yes
Origin FE		Yes	Yes		Yes	Yes
Interviewer FE			Yes			Yes

Note: *Interview* denotes any work-related contact with a German employer (i.e. for a job interview, job offer or work); *Employed* is a dummy for employment (full-time or part-time), training (Ausbildung) or internship. *German* takes the value of one if a participant speaks German at the level of B1 and higher at the baseline. *Recognised* takes the value of one if a participant is already a recognised refugee at the baseline. *Time since arrival* measures the number of months after arrival in Germany at baseline. Robust standard errors in brackets, *** p<0.01, ** p<0.05, * p<0.1

Table A.3: **Logit regressions: Contact with employer and employment, first follow-up survey (six months after the initial job-counselling session)**

Dependent variables	(1) Interview	(2) Interview	(3) Interview	(4) Employed	(5) Employed	(6) Employed
Treatment	-0.0335	0.00902	0.00595	-0.341	-0.323	-0.362
	(0.237)	(0.243)	(0.271)	(0.279)	(0.286)	(0.310)
Medium-educated			0.616			0.695
			(0.376)			(0.464)
High-educated			1.106***			0.498
			(0.422)			(0.508)
German			0.580			0.473
			(0.385)			(0.399)
Recognised			0.177			1.137**
			(0.460)			(0.517)
Observations	296	296	290	296	296	290
Ymean control	0.403	0.403	0.403	0.257	0.257	0.257
Ysd control	0.492	0.492	0.492	0.438	0.438	0.438
Time since arrival		Yes	Yes		Yes	Yes
Origin FE		Yes	Yes		Yes	Yes
Interviewer FE			Yes			Yes

Note: *Interview* denotes any work-related contact with a German employer (i.e. for a job interview, job offer or work); *Employed* is a dummy for employment (full-time or part-time), training (Ausbildung) or internship. *German* takes the value of one if a participant speaks German at the level of B1 and higher at the baseline. *Recognised* takes the value of one if a participant is already a recognised refugee at the baseline. *Time since arrival* measures the number of months after arrival in Germany at baseline. Number of observations in this logit regression are lower than in the OLS regression as the fixed-effects logit model does not allow to use observations from groups that have no variation on the outcome. Standard errors in brackets, *** p<0.01, ** p<0.05, * p<0.1

Table A.4: **Logit regressions: Contact with employer and employment, second follow-up survey (twelve months after the initial job-counselling session)**

	(1) Interview	(2) Interview	(3) Interview	(4) Employed	(5) Employed	(6) Employed
Dependent variables						
Treatment	0.198	0.400	0.371	0.359	0.631*	0.657*
	(0.299)	(0.320)	(0.329)	(0.304)	(0.337)	(0.346)
Medium-educated			0.377			0.154
			(0.444)			(0.479)
High-educated			0.793			0.422
			(0.494)			(0.516)
German			-0.387			-0.344
			(0.493)			(0.488)
Recognised			-0.271			-0.209
			(0.533)			(0.560)
Observations	182	182	180	182	182	180
Ymean control	0.520	0.520	0.520	0.370	0.370	0.370
Ysd control	0.502	0.502	0.502	0.485	0.485	0.485
Time since arrival		Yes	Yes		Yes	Yes
Origin FE		Yes	Yes		Yes	Yes
Interviewer FE			Yes			Yes

Note: *Interview* denotes any work-related contact with a German employer (i.e. for a job interview, job offer or work); *Employed* is a dummy that equals one if a participant has a full-time or part-time job, undergoes training (Ausbildung) or has an internship. *German* takes the value of one if a participant speaks German at the level of B1 and higher at the baseline. *Recognised* takes the value of one if a participant is already a recognised refugee at the baseline. *Time since arrival* measures the number of months after arrival in Germany at the baseline. Number of observations in this logit regression are lower than in the OLS regression as the fixed-effects logit model does not allow to use observations from groups that have no variation on the outcome. Robust standard errors in brackets, *** p<0.01, ** p<0.05, * p<0.1.

Table A.5: **Contact with employer and employment, second follow-up survey (after twelve months, Logit), by education**

	(1) Interview	(2) Interview	(3) Interview	(4) Employed	(5) Employed	(6) Employed
Dependent variables						
Educational group	Low	Medium	High	Low	Medium	High
Treatment	17.14***	0.412	0.743	19.28***	0.447	1.145
	(1.122)	(0.456)	(0.647)	(2.090)	(0.482)	(0.739)
Syria	19.00***	1.273	2.405**	19.04***	0.991	2.958**
	(1.675)	(0.945)	(1.175)	(2.923)	(1.032)	(1.248)
Nigeria	35.28***	1.292	-0.0999	20.23***	0.638	
	(1.952)	(0.887)	(1.251)	(3.073)	(1.021)	
Afghanistan	18.65***	2.078**	-0.532	21.18***	1.636	0.200
	(2.386)	(1.024)	(0.945)	(3.799)	(1.101)	(1.036)
Rest Africa		1.501	0.192		-0.165	1.561
		(0.949)	(0.965)		(1.108)	(1.065)
Observations	23	89	60	23	89	53
Time since arrival	Yes	Yes	Yes	Yes	Yes	Yes
Ymean control	0.509	0.528	0.550	0.377	0.380	0.403
Ysd control	0.502	0.501	0.499	0.487	0.487	0.492

Note: *Interview* denotes any work-related contact with a German employer (i.e. for a job interview, job offer or work); *Employed* is a dummy that equals one if a participant has a full-time or part-time job, undergoes training (Ausbildung) or has an internship. *months in Germany* measures the number of months after arrival in Germany at the baseline. The results hold if we add controls for German and recognised status at the baseline. Number of observations in this logit regression are lower than in the OLS regression as the fixed-effects logit model does not allow to use observations from groups that have no variation on the outcome. Robust standard errors in brackets, *** p<0.01, ** p<0.05, * p<0.1.

Table A.6: **Contact with employer and employment, second follow-up survey (after 12 months, Logit), by status**

Dependent variables Group	(1) Interview Not recognised	(2) Interview recognised	(3) Employed Not recognised	(4) Employed recognised
Treatment	0.739*	-0.462	1.053**	-0.255
	(0.380)	(0.631)	(0.424)	(0.587)
Nigeria	0.124		-0.104	
	(0.542)		(0.600)	
Afghanistan	0.290	2.694	0.795	1.530
	(0.621)	(1.779)	(0.645)	(1.662)
Rest Africa	-0.576	1.889	-0.996	1.411
	(0.613)	(1.459)	(0.734)	(1.397)
Syria		2.293*		1.728
		(1.255)		(1.233)
Observations	122	60	122	60
Time since arrival	Yes	Yes	Yes	Yes
Ymean control	0.540	0.532	0.399	0.395
Ysd control	0.500	0.501	0.491	0.491

Note:*Interview* denotes any work-related contact with a German employer (i.e. for a job interview, job offer or work); *Employed* is a dummy that equals one if a participant has a full-time or part-time job, undergoes training (Ausbildung) or has an internship. *months in Germany* measures the number of months after arrival in Germany at the baseline. The results hold if we add controls for education, level of German and recognised status at the baseline. Number of observations in this logit regression are lower than in the OLS regression as the fixed-effects logit model does not allow to use observations from groups that have no variation on the outcome. Standard errors in brackets, *** p<0.01, ** p<0.05, * p<0.1.

Table A.7: **Probability to be matched to a vacancy by the NGO and the number of job matches**

| Sample Dependent variables	(1) With 2nd follow-up Matched	(2) With 2nd follow-up Number of matches	(3) Full sample Matched	(4) Full sample Number of matches
Treatment	0.608***	1.024***	0.533***	0.810***
	(0.0502)	(0.152)	(0.0350)	(0.0963)
Medium educated, isced 2-3	0.00404	-0.498**	-0.0440	-0.347***
	(0.0688)	(0.209)	(0.0456)	(0.126)
Highly educated, isced 4-5	-0.0948	-0.707***	-0.117**	-0.414***
	(0.0745)	(0.226)	(0.0525)	(0.145)
German	0.0472	0.376*	0.0786	0.277*
	(0.0736)	(0.223)	(0.0521)	(0.144)
Recognised	0.169*	1.180***	0.0256	0.336**
	(0.0876)	(0.266)	(0.0552)	(0.152)
Observations	182	182	410	410
R-squared	0.507	0.416	0.399	0.227
Time since arrival	Yes	Yes	Yes	Yes
Origin FE	Yes	Yes	Yes	Yes

Note: Dependent variables: *Matched* is coded as 1 if a participant was matched by the NGO to at least one job vacancy; *Number of matches* is the number of vacancy matches for a given participant. *German* takes the value of one if a participant speaks German at the level of B1 and higher at the baseline. *Recognised* takes the value of one if a participant is already a recognised refugee at the baseline. *Months in Germany* denote months since arrival to Germany at the baseline and origin fixed effects. First two columns show the results for the sample with completed second follow-up surveys. Last two columns show the results for the full sample. Robust standard errors in brackets, *** p<0.01, ** p<0.05, * p<0.1.

Table A.8: **Treatment effects on employment (twelve months after the first meeting) for low-educated or unrecognised refugees: association with search effort**

	(1)	(2)	(3)
Sample	All unrecognised or low-educated	Sent at least 1 CV	Sent at least 5 CV
Dependent variables	Employed	Employed	Employed
Syria	0.234	-0.0328	
	(0.203)	(0.497)	
Nigeria	-0.0238	0.207	0
	(0.121)	(0.208)	(0.753)
Afghanistan	0.170	0.276	-0.159
	(0.138)	(0.237)	(0.833)
Rest Africa	-0.178	0.144	-0.0340
	(0.135)	(0.238)	(0.833)
Treatment	0.227***	0.312**	0.391
	(0.0795)	(0.132)	(0.313)
Observations	130	57	20
R-squared	0.161	0.123	0.262
Time since arrival	Yes	Yes	Yes
Ymean control	0.239	0.143	0.167
Ysd control	0.430	0.356	0.408

Note: Dependent variables: *Employed* is coded as 1 if a participant is employed, undergoes training or has an internship at the time of the second follow-up survey. The sample in the regression contains unrecognised or low-educated refugees (column 1). Column 2 contains unrecognised or low-educated refugees who report to have sent at least one CV at the time of the first follow-up. Column 3 contains the same groups, but who report to have sent at least five CVs at the time of the first follow-up. Standard errors in brackets, *** p<0.01, ** p<0.05, * p<0.1.

Figure A.1: **Responses in the follow-up surveys by treatment status**
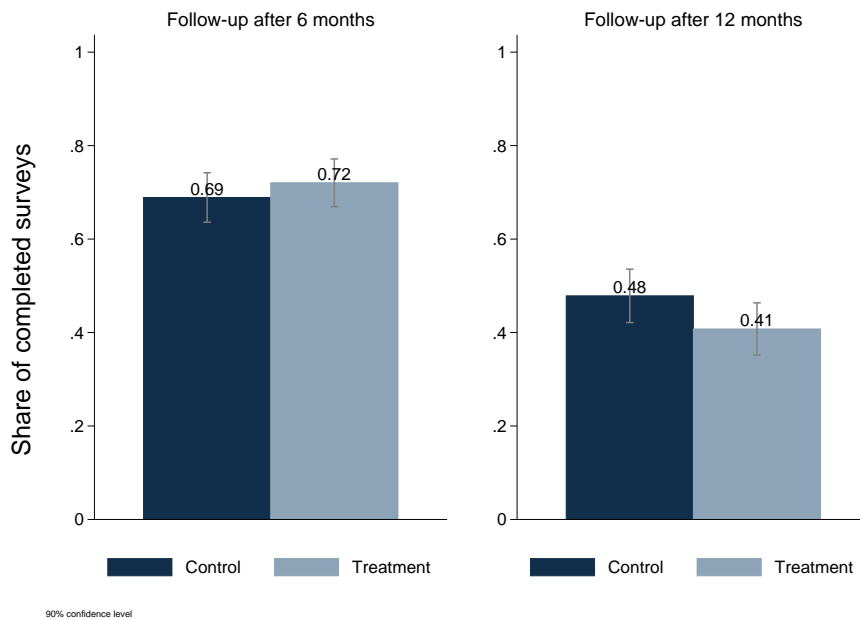
Note: This figure shows the shares of responses for the first (n=302) and second (n=187) follow-up surveys. The denominator equals to the number of all participants in the experiment (n=420).

B Limitations of our experimental approach

B.1 Selection

The refugees that took part in our experiment are certainly not representative of all refugees living in Germany for several reasons: our eligibility criteria, their motivation to come to our sessions and a focus on refugees residing in Munich. This selection has implications for external validity. An expansion of the programme or a different setting might lead to different results. However, it does not impact the internal validity of the experiment as we randomised over equally selected participants.

We can make a rough estimation of the percentage of all refugees in Munich that took part in our experiment. There have been around 12,000 refugees in Munich at the end of 2015. If we restrict this to men of working age, then we have a pool of potential candidates of around 6,000. Further subtracting refugees without a work permit and from safe countries of origin restricts the pool to around 5,000.[39] We thus have a participation rate of around eight percent of relevant and eligible candidates in Munich.[40]

B.2 Attrition

Sample attrition is a challenge when working with this population. There are multiple reason why we were not able to conduct our first and second follow-up survey, e.g. deportation, leaving Germany voluntarily, choice not to answer our questions. We concentrated our efforts on obtaining contact details that do not change over time. Besides obtaining the email address and phone number of participants, we also asked if we can contact them via WhatsApp or Facebook. One advantage in this respect is that we provided everybody with some support (CV in German and basic job search information). As the NGO offers additional support activities, both treatment and control group have an incentive to stay in touch with the NGO. Our attrition rate is around 30 percent for the first follow-up survey and 50 percent for the second follow-up survey. These high attrition rates are likely to be driven by the characteristics of this population. Importantly, however, response rates are not significantly different between treatment and control groups in either our first or our second follow up, as shown in Figure A.1.

B.3 Non-compliance

There are two forms of non-compliance we need to be aware of. The first case happens if participants who have been allocated to the control group receive the treatment. This case can be excluded as the experiment design does not make it possible for the control group to be added to the database. Participants are not aware of the internal organisation of the NGO

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[39]There are around 4,000 asylum seekers registered with the Munich branch of the Federal Employment Agency.

[40]Numbers are taken from the Munich municipality. These are likely to be rather rough approximations.

and can not push for their CV to be included. The second case happens if the participants of the treatment group do not receive the treatment (which of course depends on the way one defined the treatment). This could happen if the NGO does not find a suitable job match for a participant (e.g. because of lacking skills) or if the NGO matches treated participants but they do not attend job interviews or reject the offer. This happened, for instance, if participants attended full-time German classes or if they got an asylum rejection and hence lost the right to obtain a work permit. These cases of non-compliance bias the estimates of treatment effects towards zero.

B.4 Spillovers

Spillovers could occur if a candidate from the treatment group finds work and then recommends his friend, who is in the control group, to his employer. If this person then gets hired, he has received spillovers from the treatment group. As these types of spillovers imply that the control group receives (part of) the treatment too, this would bias the estimated effect downwards.

B.5 Displacement effects

One worry in labour market experiments is that participants of the treatment group obtain jobs that might have been filled by the control group in the absence of our experiment. If there is a limited number of jobs and both control and treatment group are competing for these jobs, then this is a valid concern. Crepon et al. (2013) find that displacement effects are particularly strong in labour markets with high unemployment. We think that displacement effects are of limited importance in the context of our experiment for two reasons. First, Munich has a very low unemployment rate and more than 1,5 million inhabitants. The size of the treatment group seems negligible given the large number of vacancies in Munich. Second, most companies indicated that they would be willing to hire additional people if they have the required German and technical skills. So the amount of vacancies does not seem to be the limiting factor. However, if one thinks about expanding the programme in terms of size or in another location, then one would need to take general equilibrium effects into consideration.