Reaching Marginalized Job Seekers through Public Employment Services: Experimental Evidence from Ethiopia*

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Abstract

We present findings from an at-scale randomized trial of a government program providing public employment services in Addis Ababa, Ethiopia, with up-to-date vacancy information. Prior to the program, women with relatively less education searched more narrowly and had worse labor market outcomes than the rest of our representative sample of relevant job seekers. These lower-skill women significantly increase job applications, receive more offers, shift from household enterprise work to wage employment, and experience higher earnings. Notably, lower-skill women do not detectably change search behavior and the increase in offers does not come from direct program take-up. Instead, their increase in offers comes through friends and family networks, their modal search method at baseline. These findings underscore the potential role of social networks in disseminating public employment information to the most marginalized job seekers.

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1 Introduction

Labor markets in many low-income countries (LIC) tend to have high rates of self employment, low rates of wage employment, and workers frequently move between unemployment and marginal employment without climbing to better paid jobs (Bandiera, Elsayed, Smurra and Zipfel, 2022; Donovan, Lu and Schoellman, 2023). Increasingly, information frictions are recognized as a key factor preventing efficient allocation of workers to jobs in these contexts.[1] They can potentially exacerbate labor market segmentation and gaps in labor market outcomes, particularly for marginalized job seekers who may struggle to access relevant information, signal their skills, or engage in costly search. Women, in particular, often face higher barriers to job search and labor force participation and may be differentially impacted by such information frictions.[2]

To address these frictions at scale, policymakers increasingly turn to online job platforms for their potential to reduce these search costs. However, these platforms can also remain inaccessible to more marginalized groups with limited access to mobile devices, difficulty navigating complex interfaces, and language barriers (Chakravorty, Bhatiya, Imbert, Lohnert, Panda and Rathelot, 2023).[3] Public Employment Services (PES) represent a potential alternative. They can provide personalized and localized support to job seekers while addressing digital access constraints. While PES have proven effective in supporting marginalized groups in high-income countries (Behaghel, Crépon and Gurgand, 2014), rigorous evidence from low-income contexts remains scarce.

This paper presents evidence from a citywide randomized control trial in Addis Ababa, Ethiopia, that evaluated a program enhancing public employment services with up-to-date vacancy information. This program was motivated by Ethiopia's urban labor markets showing stark disparities by gender and education. Youth unemployment stands at 26 percent overall, but reaches 33 percent for women versus 20 percent for men (Maaskant, 2023). Our baseline data confirms these patterns (Table B1), with lower-skill women experiencing significantly worse outcomes: 30 percent employment rates (versus 45 percent for others), substantially lower incomes, and distinctive job search patterns: Lower-skill women are less likely to use online platforms, conduct more geographically constrained searches, and disproportionately target low-skill positions.[4]

[1] See, for example, Carranza and McKenzie (2024) and Donovan and Schoellman (2023) for recent reviews. Existing work in LICs has found that (i) job search is costly and spatially constrained (e.g. Abebe, Caria, Fafchamps, Falco, Franklin, Quinn and Shilpi, 2020; Franklin, 2018), (ii) firms and workers lack relevant information (e.g. Carranza, Garlick, Orkin and Rankin, 2022) and (iii) job seekers hold biased beliefs about job opportunities (e.g. Alfonsi, Namubiru and Spaziani, 2022; Kelley, Ksoll and Magruder, 2022).

[2] In contexts where referral-based hiring through social networks is prevalent (Carranza and McKenzie, 2024, Table 1), women can be significantly disadvantaged (Beaman, Keleher and Magruder, 2018). In recent work with a large online job search platform, Archibong, Benshaul-Tolonen, Annan, Okunogbe and Oliobi (2022) find that women appear to be differentially more impacted by skills mismatches and information frictions.

[3] Rigorous evidence on their effectiveness remains mixed (Afridi, Dhillon, Roy and Sangwan, 2023; Jones and Sen, 2022; Kelley et al., 2022; Wheeler, Garlick, Johnson, Shaw and Gargano, 2022).

[4] These patterns motivate our pre-registered focus on heterogeneous treatment effects by gender and education,

The randomized intervention leveraged complementarities between existing job search channels, combining the accessibility of PES with the systematic organization and up-to-data data available from less accessible information sources. The program exploits Addis Ababa's administrative structure, where public employment services are provided through centers located in each of the city's 113 districts (*woredas*). Each center serves the local population within its district.[5] Working with government partners, we randomly assigned half of these centers to receive improved vacancy information for a period of 14 weeks. A service provider collected, digitized, and categorized vacancies from multiple online and offline sources across the city, creating weekly booklets containing about 600 listings (of which 15.7 percent were low-skill jobs) for distribution to treated offices. We complemented this with awareness campaigns to inform job seekers about the improved services.

Our data collection builds on a unique sampling frame that we constructed through an extensive household listing across Addis Ababa – addressing a key challenge in studying urban labor markets in low-income countries, where representative data on job seekers is often unavailable. In each city district, we randomly selected three enumeration areas and surveyed all households to identify 40,040 eligible job seekers (adults with at least 10 years of schooling willing to take up wage employment). From this listing, we randomly sampled 3,530 individuals, stratified by sub-city, gender, and education. We analyze data from three sources: the initial jobseeker listing, an in-person baseline, and two waves of endline surveys (during and after the intervention period).

Our findings imply large impacts of the program on job search, employment, and earnings for lower-skill women. We find that lower-skill women in treated districts double the number of applications submitted during the intervention period and also receive about 33 percent more offers for employment both during and immediately after the intervention, relative to lower-skill women in control areas. These positive effects on job applications and offers also translate into positive effects on more downstream labor market outcomes. Lower-skill women turn away from subsistence entrepreneurship, reporting an 8.5 percentage point increase in paid wage employment immediately following the program (over a control mean of 32.4 percent). Lower-skill women in treated districts also experience a nearly 25 percent increase in earned income at the end of the study. These findings are robust to various alternative controls, adjustments for multiple hypothesis testing, controlling for spillovers, tests for experimenter demand, and checks using randomization inference.

These economically meaningful impacts of improved PES for lower-skill women do not, however, come from direct engagement with the PES. Lower-skill women are significantly less

using the completion of 10th grade education to distinguish between lower- and higher-skilled workers.

[5]This spatial organization is particularly valuable given the existing evidence on spatial constraints to job search in the same context (Abebe, Caria, Fafchamps, Falco, Franklin and Quinn, 2020; Franklin, 2018). The program reduced spatial barriers by bringing vacancy information from centrally-located physical job boards to local PES offices, eliminating the need for job seekers to travel to the city center.

likely to be aware of the booklet than other job seekers in treated districts (72 percent vs. 61 percent). They are also less likely to use the booklets directly, with almost no lower-skill women in our sample applying to jobs they saw in the booklet. Additionally, we find that the treatment effects on lower-skill women's job applications and, to a lesser extent, offers are fully mediated by their neighbors' awareness of the booklet, rather than lower-skill women's own awareness.[6] Instead, multiple pieces of evidence from both qualitative interviews and quantitative analysis suggest that personal networks played a key role in disseminating information from improved PES to lower-skill women. In open-ended questions at endline, respondents who used the booklet mentioned sharing vacancy information with friends and family members. Although treated lower-skill women do not detectably shift search toward personal networks in response to the intervention, they are 6.2 percentage points more likely to receive an offer through friends and family (the modal source of offers for the control group at 7.1 percent). Moreover, lower-skill women with more job seeking household members and more job seeker community members at listing appear to drive the increase in offers from the improved PES services. Taken together, our findings suggest that the program impacted lower-skill women not through direct awareness, own take-up, or a shift in their own search methods, but rather through a shift in the quality of labor market information provided within their existing search methods (personal networks).

It is likely that the PES information intervention brought more than just specific information on a specific set of employment opportunities. The implied overall increase in employment for lower-skill women is double the number of opportunities relevant to lower-skill women listed in the booklets. Although qualitative data at endline indicates sharing of specific postings, it also indicates that booklet users are learning about labor demand more broadly, including salary information and skill requirements of jobs.

Recent work suggests that limited labor force participation may stem from constrained aspirations (Ahmed, Mahmud, Said and Tirmazee, 2024; Orkin, Garlick, Mahmud, Sedlmayr, Haushofer and Dercon, 2023) and systematically biased beliefs about job opportunities (Alfonsi et al., 2022; Kelley et al., 2022). Indeed, lower-skill women in treated districts at endline direct their search away from medium- and low- skilled opportunities and more toward high-skilled opportunities. They aspire to better jobs and higher salaries. They report a higher reservation wage for temporary employment, with an increased gap in reservation wages between temporary and permanent employment. These findings suggest that lower-skill women are learning something about themselves and the labor market, rather than merely the possibility of applying to a specific booklet listing.

Our results demonstrate unusually large impacts for an information intervention, particularly notable given that we work at-scale, embedded within existing government infrastructure, and with a representative sample of relevant job seekers.[7] While we cannot speak to longer-

[6] We are defining neighbors in this case through close proximity of up to 0.5 kilometers away from the GPS household location of the lower-skill female job seeker.

[7] While extensive evidence documents how information asymmetries impede efficient matching between workers

term effects, the magnitude of these short-term impacts provides the first rigorous evidence that public employment services can effectively serve job seekers in low-income country contexts. In particular, our findings show that PES can specifically serve job seekers that are otherwise often marginalized in many other studied job programs (e.g. online job platforms).

The intervention's effectiveness for lower-skill women – who shift away from subsistence entrepreneurship into wage employment – is especially noteworthy, contributing to our understanding of constraints to female labor supply in low-income countries. Women typically face compounded barriers to labor market participation, including mobility constraints, limited networks, and significant household responsibilities (Delecourt and Fitzpatrick, 2021; Heath, 2017). While policymakers have increasingly advocated for digital solutions to address gender employment gaps (OECD, 2018; UN-Women, 2020), existing research on such interventions remains scarce and inconclusive (Afridi et al., 2023; Kelley et al., 2022; Wheeler et al., 2022). Our findings suggest that locally-embedded, community-based services may be particularly effective at reaching marginalized women who face barriers to accessing online platforms.

This paper proceeds as follows. Section 2 introduces our project background, including key details on the urban labor market in Addis Ababa and the details of the program. Section 3 presents the experimental design, including randomization, timeline, sampling, data collection, and estimation strategy. Section 4 presents our main findings. Section 5 explores mechanisms. Section 6 concludes.

2 Study Setting and Intervention Design

2.1 Job Search and Labor Market Outcomes in Urban Ethiopia

Ethiopia's urban labor markets show patterns common to many low-income country labor markets. Data from the Government's Urban Employment and Unemployment Survey (UEUS) shows youth unemployment at 26 percent in 2020, with a significant increase since 2016 (Ethiopian Statistical Service, 2020; Maaskant, 2023). Women face persistently higher barriers: urban youth unemployment reaches 33 percent for women versus 20 percent for men, with young women three times more likely to be inactive than young men. These gender gaps intersect with education levels, as 80 percent of unemployed youth between 2006 and 2020 had not completed secondary education. Among those with only primary education, unemployment rates are nearly twice as high for women (39 percent) compared to men (21 percent).

Our baseline survey data confirms significant gaps across these dimensions (Table B1). Lower-skill women (LSW) lag behind other job seekers: their paid employment rate (30 vs. 45 percent), monthly income (7,116 versus 10,488 Birr), and job search activity in the past 30 days (27 percent vs. 42 percent). Their search patterns are distinctive: They are significantly less

and firms (Carranza et al., 2022; Carranza and McKenzie, 2024), we provide some of the first rigorous evidence on an at-scale, government-implemented solution.

likely to use online platforms (7 versus 25 percent) and predominantly target low-skill positions (11 versus 6 percent). When conducting in-person searches, LSW operate within a smaller geographical radius, visiting fewer neighborhoods and traveling shorter distances. While personal networks are the most common search method across all groups, LSW rely more exclusively on this channel. These stark contrasts motivated our analytical focus on comparing LSW with the rest of the sample (RoS).

This reliance on networks exists within a job search environment with fragmented information channels. Low-skill job vacancies are primarily advertised on centrally-located job boards, requiring costly travel (Abebe, Caria, Fafchamps, Falco, Franklin and Quinn, 2020). While online platforms are growing in popularity, they primarily serve higher-skill job seekers. In contrast, public employment service centers are distributed throughout residential neighborhoods, making them geographically accessible. However, these centers are widely perceived as ineffective due to outdated information.[8]

2.2 Intervention Design and Implementation

In 2019, the Ethiopian government launched a reform of active labor market policies focusing on improved employment and intermediation services through approximately 1,700 government service centers across the country. The goal of this reform was to reduce information frictions by bringing vacancy data to government offices. We worked closely with federal and local government partners and a private online jobs platform to design, implement, and evaluate a pilot program in Addis Ababa to realize this goal.

The program processed, collated, and aggregated vacancy postings from existing offline and online channels. This information was curated into weekly booklets that were provided to government public employment service centers in randomly selected districts throughout the city. In Addis Ababa's administrative structure, each district (*woreda*) has one PES center, also known as a "one-stop service center" (OSSC), and residents are required to use the center in their district of residence.

Prior to our intervention, PES centers faced significant limitations in their ability to serve job seekers effectively. While these centers offered free, in-person services with caseworker support in accessible neighborhood locations, they lacked reliable, up-to-date information on job vacancies. The centers had no prior systematic connection to vacancy data flows from either online or offline sources and no digital case management system. Job information was sporadic, often outdated, and largely dependent on employers directly contacting specific PES centers.

The program explicitly aimed to addresses key limitations of, and leverage complementar-

[8]We elicited detailed beliefs about the returns to job search through various channels. We asked respondents about their expected number of job offers in the next four months if they only searched for work in one channel. Among respondents living in control areas, the public employment services are seen as the least efficient, generating on average 1.5 offers in expectation. Online job search is seen as more effective, generating 2.95 offers in expectation. Costly private intermediation agencies are seen as most effective, generating 3.81 offers in expectation.

ities between, existing job search methods: Public employment offices offered localized, free, in-person services with caseworker support, but were viewed as ineffective due to outdated and incomplete vacancy information. In contrast, online jobs platforms provided systematic organization and up-to-date vacancy data but remained inaccessible to many marginalized job seekers.

Between early November 2022 and early February 2023, a dedicated service provider collected vacancy data daily from multiple online job websites, physical job boards, newspapers, brokers, and other sources across the city. These vacancies were digitized, de-duplicated, and manually coded by occupation and skill level, generating an average of 596 listings per week, of which 15.7 percent were low-skill positions.[9] Our research team manually reviewed the listings every week. The processed vacancies were added to our partner's online jobs platform and made available through their existing online channels.

In treated districts, the PES office received weekly printed booklets organizing all current vacancies, which were available for job seeker consultation during opening hours. The booklet was delivered every Thursday morning to ensure that the PES office and their staff could plan accordingly[10] Booklets were professionally typeset, illustrated, and branded with the logos of the Ethiopian federal government, the online job search platform, and the University of Oxford. They also included instructions for their use and contact information of the government and the online job search platform. To ensure the availability of the booklets, our team worked with a separate survey firm to conduct unannounced audits in randomly selected PES offices.[11]

On average, each weekly booklet contained approximately 600 vacancies, about one-fifth of which we classified as low- or medium-skilled jobs. In line with existing channel and following the guidance from the private online jobs platform, these lower-skill jobs were further divided into two categories: sales and services and manufacturing and construction. Vacancies were roughly split evenly between these two categories. A vacancy could appear in the booklet more than once, provided its deadline met the inclusion criterion of being at least two days after booklet delivery. Across the 13 weeks of the intervention, the booklets featured 2,669 unique vacancies, of which we classified 1,156 as low- or medium-skilled. Typical low- and medium-skill vacancies included positions in supermarkets, store keeping, clerical roles, and jobs in the hotel and restaurant sector. Table A1 summarizes key statistics on the booklet content.

In total, 13 different booklets were made available during the 14-week intervention period. The first booklet was delivered to local public employment centers on November 2, 2022, and

[9] We followed the International Standard Classification of Occupations (ISCO) from the International Labor Organization (ILO) in coding the vacancies.

[10] The choice of physical booklets rather than electronic delivery was informed by our qualitative research, which identified potential constraints in both infrastructural capacity at employment centers and digital literacy among lower-skill job seekers. Given the widespread use of print media for job search in this context, physical booklets represented the most appropriate delivery mechanism. Figure A4 shows examples of the booklet structure and content, including vacancies in sales and services classified as low- or medium-skilled.

[11] 53 visits were conducted during the intervention period, of which 46 visits met our criteria for sufficient availability of the booklet. Among the 7 visits with insufficient availability, 4 were were due to the booklet not being available and 3 were due to the PES center being closed.

the final booklet on February 8, 2023. The booklet delivery was paused for the week of January 18, 2023 due to the Ethiopian Epiphany holiday (*Timkat*). Data from our random implementation audits suggests that the booklets were actively used. During our audit visits, PES center staff were asked to estimate the number of job seekers in the previous seven days and the number of booklet users. At the median, 50 job seekers visit a PES center per week, with 15 of them actively using the booklet.

3 Experimental Design

3.1 Randomization

We randomize all of Addis Ababa's 113 districts (*woredas*) into 57 treatment and a 56 control districts, stratified by the 11 "subcities" of Addis Ababa (higher-level administrative divisions). In the treated districts, the PES offices were provided with improved services through the weekly vacancy booklet described in subsection 2.2. Residents in treated districts were also informed about the improved services with an awareness campaign that involved flyers in centrally located locations in the district (e.g. bus stops, community centers). In control districts, the existing PES infrastructure continued to operate as before.[12]

3.2 Construction of Sampling Frame

Our data collection and analysis draws on a representative sample of job seekers in Addis Ababa with at least 10 years of education. We define "job seekers" as individuals willing and available to take up employment if offered, regardless of whether they are actively searching.[13]

In the absence of an existing job seeker census or suitable administrative data in Ethiopia, we constructed our own sampling frame through door-to-door surveying in randomly selected enumeration areas (EAs) across Addis Ababa's districts.[14] From 605 EAs provided by the Ethiopian Central Statistical Agency, we randomly selected 375 EAs, ensuring a minimum of three EAs per district (Appendix Figure A1). Our stratification by geography, gender, and education level (a binary dummy for more than 12 years of education) ensures representativeness across Addis Ababa.

Enumerators visited every household within the selected enumeration areas. Respondents had to be members of the household (e.g., not housemaids or gatekeepers) and at least 18 years old. In 35 percent of cases, the household head was interviewed, while in 21 percent it was their

[12] In addition to this intervention, a second independent intervention was fielded, focusing on providing information about the labor market at the individual level. That intervention was randomized orthogonally to the district-level booklet intervention and is not part of this paper. We control for this individual level intervention throughout our analysis.

[13] Consequently, not all individuals in our sample were actively searching for employment at the baseline survey.

[14] Enumeration areas are clearly delineated, non-overlapping geographical units comprising 150 to 200 housing units. See also Abebe, Caria, Fafchamps, Falco, Franklin, Quinn and Shilpi (2020).

spouse, and in 25 percent one of their adult children. Overall, 56 percents of respondents were female.[15]

Based on this listing, we defined an eligible job seeker for our intervention as anyone with at least 10 years of schooling who responded positively to either of the following questions: "Would you take up wage employment in Addis Ababa within the next 3 [or 6] months, if an interesting job opportunity arose?" This process identified a sampling frame of 40,040 eligible job seekers. From this pool, we randomly sampled 3,530 individuals for our study.

3.3 Data

We collected three waves of data on our experimental sample: (i) jobseeker listing data (May to July 2022), (ii) baseline data prior to intervention implementation (August to October 2022), and (iii) endline data collected in two waves during and after the intervention (March to June 2023). Appendix Figure A2 provides a timeline of data collection and intervention delivery.

Listing The listing data serves dual purposes. Beyond constructing our sample of job seekers, it provides information on participants' baseline social networks. Since enumeration areas comprise approximately 150 to 200 housing units, they can serve as a proxy for a job seeker's immediate neighbors. For each enumeration area resident that is reached by our listing, we document skill level and job search behavior, including active search within the past 30 days and willingness to accept employment within 3 to 6 months. These data also enable analysis of household composition, particularly regarding the proportion of working-age household members engaged in job search.

Baseline The baseline was collected between end of August 2022 and late October 2022. The baseline survey data collection was conducted face-to-face with 3,530 individuals and captures a plethora of characteristics of job seekers

We conducted face-to-face baseline surveys with 3,530 individual job seekers between August and October 2022. The baseline instrument collected data on household characteristics, schooling, cognitive and non-cognitive skills, risk and time preference, decision making, activities, employment and time use, job search behavior, job search expectations and beliefs, plans to start a business, and various income sources.

Endline We conducted endline surveys six months after the beginning of intervention implementation, following the same format as the baseline. The endline achieved an 85 percent response rate, reaching 3,003 participants from the original sample. To minimize attrition, we

[15]Enumerators visited households on weekdays as well as on weekends and holidays to improve response rates. Overall, 19.1 percent of households could not be reached within three attempts. Refusal rates were relatively low, at 3.5 percent.

conducted phone surveys with a reduced questionnaire for participants who had relocated from Addis Ababa.

The endline data collection was stratified into an early (March to April 2023) and a late (April to June 2023) wave, allowing us to examine how treatment effects evolved over time. With the final vacancy booklet delivered to PES offices on February 8, 2023, the early wave captures effects while job listings remained relevant, while the late wave measures longer-term impacts after the intervention had concluded. It is also worth noting that the early endline period coincided with Adwa Victory Day commemorations and related, which in 2023 generated significant tensions in Addis Ababa and may have temporarily disrupted normal job search activities.

The endline survey incorporated additional modules to assess treatment uptake, including questions about respondents' proximity to employment centers, perceived returns to different search methods, and open-ended questions about booklet usage for those who accessed them.

3.4 Balance and Attrition

Overall, both our lower-skill female job seekers sample and the sample for the rest of the job seeker population is balanced at baseline. Among the twenty variables tested for imbalances, only one significant difference is observed between the treatment and control groups for lower-skill women, consistent with what would be expected by chance (See Table B2). Similarly, for the broader sample of job seekers excluding lower-skill women and in the pooled full sample, only two out of twenty variables show any imbalances (see Tables B4 and B3).

We also examine imbalances while accounting for attrition at endline.[16] The endline response rate is high, with 85 percent of the original sample participating. There are no notable differences in imbalances between the full baseline sample and the subset that responded at both baseline and endline. Nonetheless, we will control for any potential imbalances in our analysis.

Attrition in our study is generally low, with 85 percent of participants completing the endline survey.[17] For lower-skill women, we observe some small, weakly significant differential attrition. For instance, a 1-percentage-point difference in treatment status is detected between the full baseline sample and the experimental sample (those who completed the endline survey). However, this difference is practically negligible. For the larger group of job seekers excluding lower-skill women, no differential attrition is observed.

3.5 Empirical Strategy

We estimate effects of the district-level booklet intervention on individual job search and application behavior, labor market outcomes, economic activities and job seekers aspirations. For our

[16] These results are reported in Table B6 for lower-skill women, Table B7 for the rest of the sample without lower-skill women, and Table B8 for the pooled sample.

[17] Table B10 and Table B11 investigate potential differential attrition across the two main analysis groups — lower-skill women and the rest of the sample.

main outcomes of interest, we focus on endline measures pooling the early and the late survey round. However, to better understand the mechanism at play, we are also exploiting the random variation in timing of the two endline survey rounds. We estimate the following equation:

$$y_{iw} = \alpha + \beta_1 Treatment_w + X'_{iw}\delta + \varepsilon_{iw} \quad (1)$$

where for job seeker i, y_{iw} is the outcome of interest for job seeker i living in district w: job search and application behavior, labor market outcomes, economic activities and job search aspirations. $Treatment_w$ indicates whether the job seeker resides in a treated district. X_{iw} is a vector of control variables, including the strata variables, controls for imbalanced baseline covariates, the baseline value of the outcome variable when available, and additional selected controls using post-double selection following Belloni, Chernozhukov and Hansen (2014). In addition, we control for a different information experiment that was fielded at the same time as this experiment. We cluster standard errors at the district level, the unit of randomization. In addition, we always adjust our estimation using sampling weights to estimate the average treatment effect for the full representative sample of Addis Ababa job seekers. Given the disparities documented at baseline, we pre-registered analysis of heterogeneous treatment effects by gender and education level, using high school completion as the cutoff between lower- and higher-skilled individuals.

4 Results

4.1 Main Findings

Table 1 presents the treatment effects on job search and labor market outcomes. While we explore potential heterogeneous treatment effects between lower-skill women and the rest of the sample in Panel A, Panel B zooms in on lower-skill women exploring whether the treatment effects are driven directly by the availability of the booklet.

Job Applications and Offers We first provide evidence that lower-skill women significantly increased their job application activity. Columns (1) and (2) of Table 1 show that lower-skill women not only sent out more job applications but also received more job offers as a result. Notably, lower-skill women more than doubled the number of applications they submitted. Focusing on Panel B, we find that this effect is driven exclusively by the intervention period, during which the booklet was available.

In contrast, the increase in job offers received by lower-skill women persists beyond the intervention period, with gains evident both during and after the booklet's availability. The magnitude of this effect is substantial: we observe a significant 33 percent increase in the number of offers received. In comparison, we detect no significant changes in job search behavior for the rest of the sample, with the difference in treatment effects for offers being statistically sig-

nificant between groups.[18] At baseline, lower-skill women lagged significantly behind in these dimensions, underscoring the exacerbation of information frictions and inclusion concerns. The intervention effectively enabled lower-skill women to catch up, reducing the gap in applications and offers relative to the rest of the sample.

Downstream Labor Market Outcomes At endline, we also document that the increase in applications and offers coincided with a shift from subsistence entrepreneurship to wage employment. Furthermore, lower-skill women reported an increase in their total income over the past 30 days. As shown in column (4) of Table 1, we observe a significant reduction in the likelihood of lower-skill women in treated districts (i) running a household business or (ii) working without pay in a household business within the last 30 days. Specifically, lower-skill women in treated districts are nearly 50 percent less likely to engage in these types of activities, a decline that is almost entirely offset by a corresponding increase in wage employment (column (3)).

Lower-skill women in treated districts are 15 percent more likely to hold paid employment. Lastly, in line with the increase in wage employment, we find a substantial improvement in the total income of lower-skill women. Specifically, the total income of treated lower-skill female job seekers increased by 25 percent.

Unpacking the timing of these effects, we find that lower-skill women reduce their engagement in household businesses both during and after the intervention. However, the observed employment and earnings effects are primarily driven by the period following the booklet intervention. This aligns with the natural progression of job search dynamics, where job seekers apply for positions during the intervention period, but job offers are received both during and after the intervention. As such, it is reasonable to expect a time lag before the observed changes in job search behavior translate into tangible labor market outcomes. Table B12 further examines whether there are any differential effects during versus after the intervention for the rest of the sample. However, we continue to find no significant treatment effects in either period.

4.2 Robustness of Main Findings

We probe our main findings through a series of robustness checks, including alternative control specifications, adjustments for multiple hypothesis testing, spillover assessments, tests for experimenter demand effects, and randomization inference.

Randomization Inference As a first step, we perform randomization inference. Figure B1 and Figure B2 evaluate whether our results hold under all possible random assignments for lower-skill women and the rest of the sample respectively. Using the *ritest* command in Stata, we generate 1,000 alternative random assignments. Figure B1 demonstrates that the estimated coefficient

[18] Table B13 further reports the pooled estimates, revealing no significant effects except for a notable reduction in work for household businesses.

based on our actual treatment assignment is indeed an outlier compared to the distribution of treatment effects under alternative randomizations. Similarly, Figure B2 confirms no significant treatment effects for the rest of the sample, consistent with our original findings.

Controls Without Post-Double Selection Next, we verify that our results are not dependent on the controls selected via post-double selection (Belloni et al., 2014). We re-estimate our regression models, including only controls for baseline imbalance variables and strata fixed effects, omitting additional controls. Table B16 reports the results under this specification. Encouragingly, the overall patterns of our findings remain consistent, though some precision is lost.

Testing for Spillovers A common concern in experimental studies is the possibility of spillovers to untreated neighboring communities. While this is unlikely in our design — since job seekers are assigned to specific local employment offices (OSSCs) based on their address and cannot freely access neighboring offices — we formally test for spillover effects across communities.[19] To do this, we create a dummy variable indicating whether the treatment status of the closest OSSC located in a neighboring community, could influence our results. Table B17 and Table B18 present findings for lower-skill women and the rest of the sample, respectively. The inclusion of this indirect treatment indicator does not affect our results.

Adjusting for Multiple Hypothesis Testing Given the broad range of outcomes we consider — spanning job search behavior to downstream labor market impacts — we adjust p-values for multiple hypothesis testing in Table B19. Our primary findings remain robust, with statistical significance preserved based on the adjusted q-values.

Experimenter Demand Effects Finally, we address the potential for experimenter demand effects, given that our main outcomes rely on survey data. A concern could be that lower-skill women in the treatment group report improvements in job search behavior or labor market outcomes merely due to perceived expectations after receiving the booklet intervention, without actual behavioral changes. To test this, we leverage a concurrent intervention that involved calling job seekers to provide them with labor market information. This intervention included a placebo group receiving generic information about job search and the PES, alongside a control group receiving no calls. If experimenter demand effects were present, impacts of the booklet intervention should be more pronounced among those receiving placebo calls relative to those recieving no calls. However, as shown in Table B20, our treatment effects are instead driven by job seekers who received no calls. While this finding mitigates concerns about experimenter demand, we acknowledge that small sample sizes warrant cautious interpretation.

[19] Note that this indirect treatment indicator is effectively also randomized. See Table B5 and Table B9 for balance.

5 Exploration of Mechanisms

In this section, we delve into the mechanisms driving the economically meaningful impacts of improved PES for lower-skill women. We first demonstrate that these findings are not primarily driven by direct engagement with the booklet or PES services. In fact, we find that lower-skill women exhibit significantly lower take-up rates for the intervention compared to the rest of the sample. Instead, a combination of qualitative interviews and quantitative analyses highlights the pivotal role of community awareness and personal networks in disseminating the labor market information from the booklets to LSW.

5.1 Lower-Skill Women Have Low Direct Intervention Take-Up

Overall, job seekers in treated districts report a high level of awareness regarding the booklet (Table 2). However, actual take-up — as measured by usage of the booklet and applications to vacancies listed within it — remains modest.[20]

Nevertheless, Table 2 reveals important heterogeneity patterns in take-up between lower-skill women and the broader sample. While general awareness of the booklet averages at 72 percent in treated districts, it is approximately 11 percentage points lower among lower-skill women. This pattern is consistent across usage and application rates: only 10 percent of lower-skill women in treated districts used the booklet, compared to 15 percent among the rest of the sample.[21]

5.2 Neighbors' Program Awareness Mediates Impacts

We compute the average controlled direct effect (ACDE) of the intervention fixing the potential mediators of interest — that is, the effect that the intervention would have had on the lower-skill women's job applications and job offer outcomes if the behavior captured by the mediator had not happened.[22] The ACDE captures the impact of an intervention when a particular mediator is not allowed to respond to the treatment. We can thus assess the importance of a given mediator by comparing the original treatment effect to the ACDE. We show these comparisons in the two panels of Figure 1.

The figure shows the original treatment effect and various mediated treatment effects on two different outcomes of interest: the lower-skill women's number of job applications (left panel) and number of job offers received (right panel). The top coefficient in both panels displays the original, unmediated treatment effects for reference (dashed line). Below that, both panels show

[20] The extremely low control group mean of approximately 5 percent for awareness and just 1 percent for usage further suggests the absence of information spillovers from treated to untreated districts.

[21] Table B14 reports the pooled estimates.

[22] We follow the recommendations on mediation analysis of Acharya, Blackwell and Sen (2016) to more formally rule out the hypothesis that the increases in applications and offers is driven by actual booklet use (in line with the findings from Table 2).

the effect of the booklet treatment on the outcomes when the respondent's own awareness of the vacancy booklet is fixed as a mediator. For both outcomes, the ACDE fixing the respondent's own booklet awareness remains very similar. This means that the effect that the booklet treatment would have had on the lower-skill women's job applications and job offers if their own awareness of the booklet had not changed would have been statistically indistinguishable from the original treatment effect (to be precise, 11 percent larger for the number of job applications and 36 percent smaller for the number of job offers). This changes when looking at mediators relating to the respondents' *neighbors'* awareness of the vacancy booklet, as shown in the bottom three coefficient in both panels: fixing the booklet awareness of the neighbors living within different radii around the respondent (0.5km, 0.75km, 1km) substantially reduces the original treatment effects. For the number of job applications, had the neighbors living close to the respondent not been aware of the booklet, the treatment effect of the booklet on the respondents' job applications would have been indistinguishable from zero (a reduction by up to 115 percent). Similarly but less strongly, had the close neighbors (within 0.5km) of the respondent not been aware of the booklet, the treatment effect on her number of job offers would have decreased by up to 50 percent.

This analysis demonstrates that the treatment effects on lower-skill women's job applications and (to a lesser extent) offers are better explained by their neighbors' awareness of the booklet that lower-skill women's own awareness.

5.3 Personal Networks Are an Important Impact Channel

The insights of our mediation analysis are consistent with translations of recorded responses to open-ended questions at endline mentioning sharing booklet information and insights with friends and family. This suggests that lower-skill women's community members could play a role in disseminating relevant vacancy information. This insight motivates a deeper examination of lower-skill women's job search methods and offer channels.

Although we do not observe a shift toward greater reliance on personal networks for job searching, it is noteworthy that personal networks were already the primary method of job search at baseline (Table 3). However, the intervention significantly increases the likelihood of lower-skill women receiving job offers through family and friends, with a 6.2 percentage point increase from a control group mean of 7.1 percent.

To further investigate the potential role of personal networks in transmitting labor market information to lower-skill women, we leverage listing data to construct baseline network proxies. Although detailed network data allowing for reconstruction of exact personal networks is unfortunately unavailable to us, it is possible to construct two sets of proxies for job seekers in lower-skill women's networks exploiting the information from the listing data.

First, we use detailed information on every working-age household member from the listing survey. For each member, we know whether they were actively searching for a job or would be available for wage employment within the next 3 to 6 months at the time of the survey. Based on

this, we define job seekers as individuals available for wage employment within three months. Using this definition, we construct dummy variables indicating whether a job seeker's household includes more than one additional job seeker (the median across households) or more than two additional job seekers (the 75th percentile across households).

Second, we extend the analysis to include neighbors, who are well proxied in Addis Ababa by individuals living in the same enumeration areas (EAs). These EAs typically consist of 150 to 200 housing units. Using the listing survey, which contains data on all job seekers within an EA, we construct measures of neighbor networks. Specifically, we create dummy variables indicating whether an EA has more than 117 job seekers (the median) or more than 143 job seekers (the 75th percentile).

Table 4 presents the results, split by these four network measures. The findings suggest that lower-skill women with a higher number of job-seeking household members and neighbors are driving the increase in offers resulting from the improved vacancy information at the PES. When comparing household and EA-level measures, we find that even having more than the median number of job seekers — that is more than 1 job seeker (excluding the respondent itself) — in an LSW's household makes a significant difference in explaining the number of job offers received. However, for neighbors to have an impact, the threshold is higher — only EAs with a very high proportion of job seekers (above the 75th percentile) show notable differential effects.

Taken together, these findings suggest that the program's impact on LSW was not driven by direct awareness or intervention take-up by the LSW themselves, nor by a shift in their job search methods. Instead, the program improved the quality of information shared within their existing personal networks, enhancing their ability to secure job offers.

5.4 New Labor Market Information: Job Targeting and Job Search Aspirations

While the qualitative interviews mention sharing information about specific job postings, this cannot fully account for the observed employment effects. As highlighted in Table A1, the booklet contained approximately 50 suitable jobs (low- and medium-skill positions in sales and services) per week over the 13 weeks of the intervention. This amounts to roughly 650 jobs for lower-skill women (LSW) across Addis Ababa. Our estimated increase in offers implies that there are 5 new paid employment instances per 100 LSW in treated districts. Given our sampling coverage of 9 percent of total enumeration areas and the 2,150 relevant LSW listed in the sampled areas, this translates to approximately 1,200 new jobs for LSW created across all of Addis Ababa—exceeding the number of jobs available in the booklet.[23]

This discrepancy suggests that the PES information intervention, combined with the role of personal networks, likely provided more than just specific information about the listed employment opportunities. The qualitative responses mention gaining broader insights into labor

[23] 2,150 LSW in sampled areas at 0.09 percent coverage implies approximately 24,000 LSW in treated areas across Addis. 24,000 LSW at 5 jobs per 100 LSW implies then 1200 new employment instances total at endline.

demand, including salary expectations and skill requirements for various jobs. Motivated by these observations, we test for shifts in lower-skill women's job search targets and aspirations in Table B15.

Columns (1) and (2) document a shift in the occupational and skill-level targets of lower-skill women during their job search. Lower-skill women are more likely to seek jobs classified as high-skill according to the ISCO skill classifications, accompanied by a corresponding decline in searches for low- and medium-skill jobs, primarily driven by a reduction in searches for low-skill jobs.

Further evidence of a shift in lower-skill women's labor market aspirations is presented in columns (3) to (6). We observe an increase in the gap between reservation wages for temporary and permanent jobs, driven by a rise in reservation wages for temporary jobs. This indicates a decreased willingness among lower-skill women to accept temporary positions over permanent ones. Additionally, lower-skill women in treated districts report a 9% higher expected salary in five years compared to the control group.

6 Conclusion

Finding scalable solutions that remove barriers to productive job search and employment in LMICs labor markets is a key development challenge of our time. While addressing information frictions represents only one component of any comprehensive solution, it remains crucial for efficiency and equity. Information barriers can prevent efficient matching between firms and workers and exacerbate existing labor market inequalities. A parallel concern for equity and inclusion in the face of high gender and skill gaps in such labor markets underscores this challenge and caveats a growing body of work showing mixed evidence on the effectiveness of job platforms and online portals, which are inaccessible to the most marginalized job seekers.

This paper provides rigorous evidence that an at-scale government employment program can successfully improve the labor market outcomes of more marginalized (female) job seekers. The evaluated intervention leverages complementarities between existing public employment service infrastructure and systematic vacancy aggregation. Our estimated increases to applications and offers, shifts in employment, and increased earnings for lower-skill women in our sample are economically significant and highly robust. Notably, the intervention appears to be highly cost effective.[24] Our randomized evaluation of this intervention demonstrates that locally-embedded government services can effectively reduce job search and employment barriers for marginalized job seekers, at least in the short term. Future work is needed to test longer-run impacts of such programming.

Our exploration of mechanisms uncovers an important insight on the nature of lower-skill

[24]We estimate the cost of the program per lower-skill woman to be 72.4 Ethiopian birr (approx. USD 0.55), with monthly returns of 287 Ethiopian birr (approx. USD 2.18). Appendix A.1 provides a more detailed breakdown of intervention costs.

women's job search. The large effects of the program on LSW job search and employment are not explained by LSW's own awareness of the program nor do the generated offers come from the PES office visits themselves. Instead, the effects are fully mediated by a LSW's community awareness, driven by LSW with more actively searching baseline networks, and offers come through LSW's modal form of search at baseline, friends and family. These findings underscore the potential importance of engaging with communities and personal networks to reach these more marginalized groups in any future PES initiative.

Tables

Table 1: Treatment Effect Estimates on Job Search and Labor Market Outcomes

	Job Search Behavior		Labor Market Outcomes		
	# Applications	# Offers	Employment for Pay	Work in HH Business	Total Income
	(1)	(2)	(3)	(4)	(5)
Panel A: Treatment Effects (TE) for Low-Skill Women (LSW) vs. Rest of Sample (RoS)					
TE for LSW	0.085*	0.070**	0.054*	-0.073***	287.159*
	(0.048)	(0.028)	(0.031)	(0.023)	(158.419)
TE for RoS	0.003	-0.032	-0.014	-0.011	-182.090
	(0.066)	(0.023)	(0.019)	(0.015)	(185.282)
Difference	0.082	0.102***	0.068*	-0.062**	469.249*
	(0.081)	(0.037)	(0.036)	(0.027)	(243.087)
Control Mean LSW	0.137	0.214	0.371	0.168	1298.736
Control Mean RoS	0.475	0.403	0.624	0.160	4305.507
N LSW	737	737	737	737	737
N RoS	2266	2266	2266	2266	2266
Panel B: Treatment Effects for Low-Skill Women (LSW), During vs. After the Intervention					
TE for LSW During Intervention	0.181**	0.072*	0.043	-0.085***	137.678
	(0.072)	(0.041)	(0.042)	(0.031)	(197.117)
TE for LSW After Intervention	-0.003	0.066**	0.085*	-0.067**	587.237***
	(0.058)	(0.031)	(0.045)	(0.033)	(224.403)
Difference	0.185**	0.006	-0.042	-0.018	-449.559
	(0.089)	(0.052)	(0.062)	(0.046)	(288.904)
Control mean During	0.092	0.086	0.416	0.162	1470.303
Control mean After	0.184	0.248	0.324	0.173	1121.419
N during	371	371	371	371	371
N after	366	366	366	366	366

Notes: All specifications include the individual treatment dummy which controls for a second intervention that was fielded at the same time, though the point estimates have been suppressed for clarity. All specifications also include the baseline value of the dependent variable and strata (subcity) fixed effects. In addition, we control for baseline imbalances taking into account attrition at endline as shown in Tables B6 and B7. We furthermore select additional controls using post-double selection (Belloni et al., 2014). The observations are measured at endline, that is after the intervention has ended. We conducted the endline in two rounds with the first round being within 30 days after the last vacancy booklet has been published. Notably, this first round also falls within the 30-day time frame surrounding the 27th Adwa Victory Day, during which tensions were high in Addis Ababa. These tensions likely disrupted job search activities and job arrival rates. Errors are clustered at the district level. Sampling weights are used. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table 2: Take-up of the Intervention

	Aware of booklet	Used booklet	Applied to booklet
	(1)	(2)	(3)
Treatment Effect for Low-Skill Women (LSW)	0.558***	0.089***	0.007
	(0.029)	(0.017)	(0.005)
Treatment Effect for Rest of Sample (RoS)	0.667***	0.145***	0.022***
	(0.016)	(0.012)	(0.005)
Difference	-0.109***	-0.056***	-0.015**
	(0.033)	(0.021)	(0.007)
Control mean LSW	0.058	0.011	0.000
Control mean RoS	0.056	0.005	0.000
N LSW	737	737	737
N RoS	2266	2266	2266

Notes: All specifications include the individual treatment dummy which controls for a second intervention that was fielded at the same time, though the point estimates have been suppressed for clarity. All specifications include strata (subcity) fixed effects. In addition, we control for baseline imbalances taking into account attrition at endline as shown in Tables B6 and B7. We furthermore select additional controls using post-double selection (Belloni et al., 2014). The observations are measured at endline, that is after the intervention has ended. We conducted the endline in two rounds with the first round being within 30 days after the last vacancy booklet has been published. Errors are clustered at the district level. Sampling weights are used. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Search and Offer Channels

	PES	In-person search	Online and offline media	Brokers and agencies	Personal networks
	(1)	(2)	(3)	(4)	(5)
Panel A: Search Methods					
Treatment Effects for Low-Skill Women	0.020	0.014	0.005	0.014	0.016
	(0.013)	(0.022)	(0.016)	(0.018)	(0.029)
Control mean	0.014	0.088	0.052	0.052	0.151
Number of obs.	737	737	737	737	737
Panel B: Offer Channels					
Treatment Effects for Low-Skill Women	-0.008	0.004	0.003	0.007	0.062***
	(0.006)	(0.010)	(0.003)	(0.011)	(0.023)
Control mean	0.011	0.019	0.000	0.019	0.071
Number of obs.	737	737	737	737	737

Notes: All specifications include the individual treatment dummy which controls for a second intervention that was fielded at the same time, though the point estimates have been suppressed for clarity. All specifications also include the baseline value of the dependent variable and strata (subcity) fixed effects. In addition, we control for baseline imbalances taking into account attrition at endline as shown in Tables B6 and B7. We furthermore select additional controls using post-double selection (Belloni et al., 2014). The observations are measured at endline, that is after the intervention has ended. We conducted the endline in two rounds with the first round being within 30 days after the last vacancy booklet has been published. Physical methods include both job boards and work sites, while media covers offline and online resources, including news, online, SMS and Telegram. Personal networks covers searching and receiving offers through friends and family. Errors are clustered at the district level. Sampling weights are used. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table 4: Baseline Networks

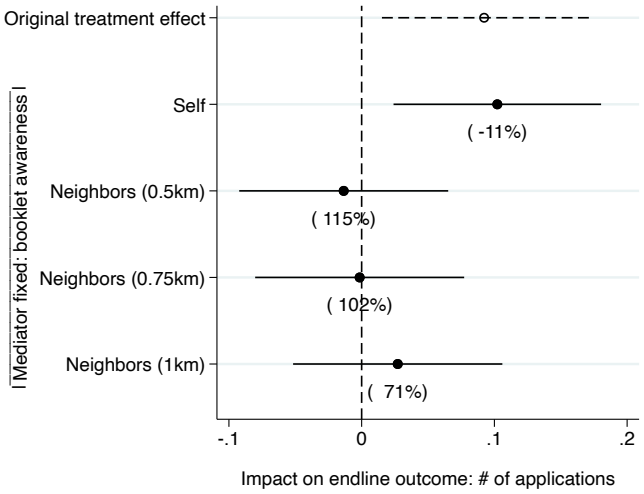
	Median # Job Seekers in HH (>1 JS)	75th %ile # Job Seekers in HH (>2 JS)	Median # Job Seekers in EA (>117 JS)	75th %ile # Job Seekers in EA (>143 JS)
	# Offers	# Offers	# Offers	# Offers
	(1)	(2)	(3)	(4)
TE (high # JS in BL Network)	0.144**	0.198	0.073**	0.136**
	(0.060)	(0.137)	(0.032)	(0.056)
TE (low # JS in BL Network)	0.050*	0.060**	0.062	0.040
	(0.029)	(0.026)	(0.040)	(0.027)
Difference	0.094	0.137	0.012	0.096
	(0.067)	(0.140)	(0.051)	(0.062)
Control mean high	0.222	0.320	0.204	0.197
Control mean low	0.213	0.208	0.224	0.218
N high	138	42	353	156
N low	597	693	382	579

Notes: All measures are based on the listing data conducted on every job seeker in the household and in the ea. Column (1) and (2) focuses on additional job seekers in the job seekers' household, while column (3) and (4) zoom in on job seekers within one's enumeration area consisting of between 150 and 200 housing units. Job search in this case is defined through being available and willing to take-up a job within the next three months if the opportunity presents itself. All specifications include the individual treatment dummy which controls for a second intervention that was fielded at the same time, though the point estimates have been suppressed for clarity. All specifications also include the baseline value of the dependent variable and strata (subcity) fixed effects. In addition, we control for baseline imbalances taking into account attrition at endline as shown in tables B6 and B7. We furthermore select additional controls using post-double selection (Belloni et al., 2014). The observations are measured at endline, that is after the intervention has ended. We conducted the endline in two rounds with the first round being within 30 days after the last vacancy booklet has been published. Errors are clustered at the district level. Sampling weights are used. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

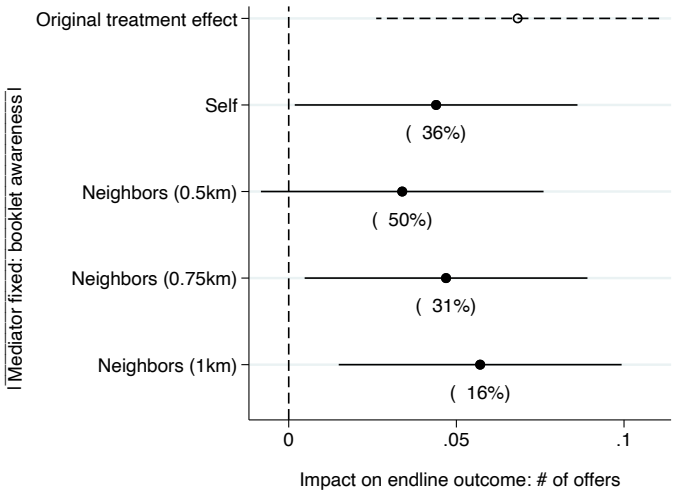
Figures

Figure 1: Mediation Analysis (Own vs. Neighbors's Awareness of Intervention)

Panel a) Applications (number)



Panel b) Offers (number)



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Online Appendix

Reaching Marginalized Job Seekers through Public Employment Services: Experimental Evidence from Ethiopia

Morgan Hardy, Christian Johannes Meyer, Johanna Roth, Marc Witte

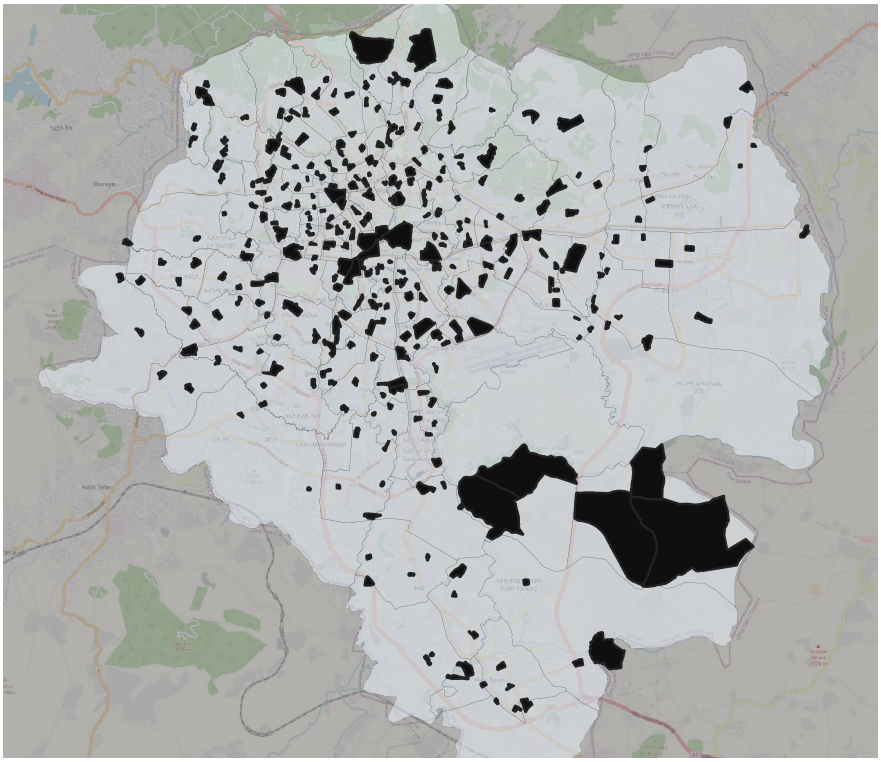
Table of Contents

A Context and Experimental Details **2**
A.1 Intervention Cost Estimates 6

B Balance, Additional Results, and Robustness **7**
B.1 Sample Overview and Balance 7
B.2 Attrition 12
B.3 Additional Results and Robustness 18

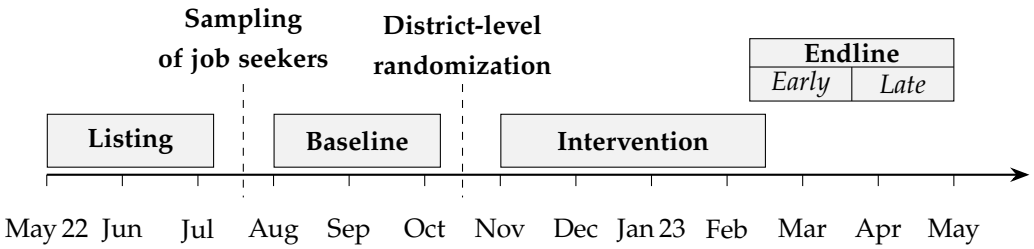
A Context and Experimental Details

Figure A1: Map of Sampled Enumeration Areas



Notes: This map shows the enumeration used for the construction of our jobseeker sampling frame. City boundaries of Addis Ababa, Ethiopia, are shown in light gray. Within the city boundaries, shaded polygons indicate the 375 randomly selected enumeration areas from a list of 605 enumeration areas obtained from the Ethiopian Central Statistical Agency. While sampling, we ensured a minimum of three EAs per city district (*woreda*).

Figure A2: Experimental Timeline



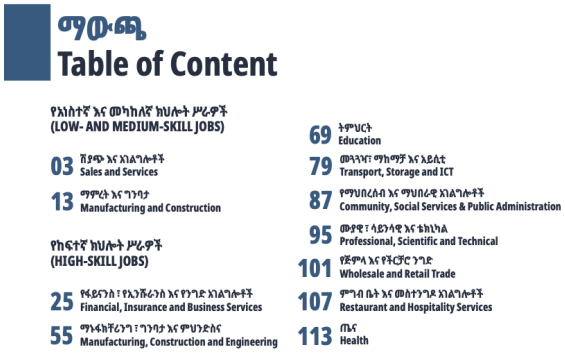
Notes: This figure illustrates the study timeline. The experiment started in May 2022. We collected data for our jobseeker listing between May and of July 2022. Based on this, we identified eligible job seekers for our baseline survey, which was implemented from August to October 2022. The intervention was fielded in early November 2022 and lasted three months. After the end of the intervention, we again interviewed all baseline survey participants at endline between March and June 2023. The endline survey was fielded in two phases with the first phase overlapping with the last available booklet in the local employment centers.

Figure A4: Booklet Content

Cover Page



Content Page



Cover Page Example for Section



Example of low- and medium skill vacancies

#	Title ርዕስ	Employer ቀጣሪ	Place of Work የስራ ቦታ	Qualification Summary የብቃት ማጠቃለያ	Experience in Years የስራ ልምድ	How to Apply ለማመልከት	Deadline የሚጠናቀቅበት ቀን
43	የምግብ ዝግጅት ረዳት አስፈላጊ	Hotel and Tourism Training Institute	Addis Ababa ▲ 3	ዲ ፕሎማ ወይም ዓይነቢ ውታ ትምህርትና ስልጠና ደረጃ 4 በምግብ ዝግጅት ወይም ተመሳሳይ የስራ ልምድ ሊሆን ደረጃ 4 ያለው/ያት	2	አመልከቾች ዩ ትምህርት ማስረጃችሁን፣ ሞኖውን እና የማይመለስ ፖ ፎቶግ ይዛችሁ አጠገቡ በሚገኘው የሆቴልና ቱሪዝም ማሰልጠኛ ኢ ነስተትዩት በአካል በመቅረብ የተሻሻለ የትምህርት ማስረጃ፣ የልምድ ደብዳቤ (ካለ)፣ የታደሰ መታወቂያ እና ሌሎች ደጋፊ ሰነዶች በአካል በመቅረብ ለሁለት ሰዓት ብቻ አስተዳደር ጽ/ቤታችሁ ቅረቡ በአካል በመምጣት መመዝገብ ይችላሉ	2022-12-12 2015-4-3 ዓ/ም
44	Customer Service Officer	Rammis Bank	▲ 31	BA Degree in Economics, Accounting, Management or related fields with similar work experience, out of which 1 year as a Bank trainee, Junior Officer, Associate Officer or Junior Trainee Position tasks: - Responsible for the provision of accurate and efficient secretarial, clerical, cashier, reception, records, administration and backlilling support.	3	Send your Application, Degree documents, CV, Work Experience, and other necessary credentials via email: rammisbank@gmail.com or rammisbankhotl@gmail.com or info@rammisbank.et Note: Single applicants should have to send only one time by listing different cities interested in applying for the different vacant places.	2022-12-10 2015-4-1 ዓ/ም
45	ጥበቃ	Summer and Communication Case Enforcement Services	Bahir Dar ▲ 3	የትምህርት ዓርፍ : 8ኛ ክፍል ያጠናቀቀ ወንድ/ሴት ዕድሜው ከ18 እስከ 30 ዓመት ያልበለጠ ቁጥር ወንድ	0 - 1	አመልካቾች ሞኖውንና የትምህርት እና የስራ ልምድ ማስረጃ ከማመልከቻ ፎርም ጋር ጋር በመያዝ ቀበሌ 140 በአካል በመምጣት መመዝገብ ትችላላችሁ።በስልክ መረጃ በሰጡበት ቁጥር +251913020098 በመደወል አስፈላጊውን መረጃ መጠየቅ ይችላሉ	2022-12-10 2015-4-1 ዓ/ም
46	Project Store Keeper	TNT Construction & Trading	Addis Ababa ▲ 2	Diploma or TVET Level 4 in Supplies & Purchasing Management, or related fields with similar work experience Duty Station: Project Position tasks: - Maintains inventory records by adding or deducting items as they are issued or received; verifies, updates, and reconciles inventory information	2 - 3	Submit your application and CV with all credentials in person at TNT Construction and Trading Office, located around Ayat Square, on the way to Tafo, next to Ethiopian Investment Holdings (EIH) Human Resource Development & Administration Department 2nd floor For further information contact Tel. 0118619669/ email: tntlrm@gmail.com / P.O. Box 190038 Addis Ababa	2022-12-10 2015-4-1 ዓ/ም
47	Janitors	Betseb Academy	Addis Ababa ▲ 1	Can Communicate with mother tongue and being at good health condition Required Gender: Female	0	Submit your CV's with copies of relevant credentials via an email addressed to: hr@bet.edu.et or in person to Betseb(6) Academy, located in Kotta Keraniyo Side=City, around Ayer Tena area, to Human Resource Office. For more information contact Tel. +251946808080/ +251935409610/ +251980848447	2022-12-12 2015-4-3 ዓ/ም
48	ባሪስታ	We Care Supermarket	Addis Ababa ▲ 2	ትኩስ ፣ ሞቅ ያለ እና ስፔሻል መጠጦችን እና የተለያዩ የቀዘቀዙ የሚሸጡ ሰዎችን ማቅረብ ያለባቸው ሰዎች ኮሌጅ እና ሊሴ ያጠናቀቁ ሰዎች ይሁኑ ሴት ወንድ ሳይሆን ሁለቱም ሊያመለክቱ ይችላሉ ቅመሞችን የሚችሉ ሰዎች ብቻ መሆን አለባቸው ማሸግና ማከማቸት ያለባቸው ሰዎች ይሁኑ ሴት ወንድ ሳይሆን ሁለቱም ሊያመለክቱ ይችላሉ	1	አመልካቾች ዩ ትምህርት እና የትምህርት ማስረጃችሁን ሞኖውን እና የማይመለስ ፖ ፎቶግ ይዛችሁ ጀሞ 2 ጋዝ ጀርባ የሚገኘው ቅንጦት ሰፈር ኤል ኤፍ ኮንስ ጋ ጋር ጀሞ በመምጣት ማመልከት ትችላላችሁ እና ኤል ኤፍ ኮንስ ጋ ጋር ጀሞ በመምጣት ማመልከት ትችላላችሁ ለተጨማሪ መረጃ +251944686868 ይደውሉ	2022-12-13 2015-4-4 ዓ/ም
49	Executive Secretary	CPU College	Addis Ababa ▲ 2	Level IV in Secretarial Science, Information Technology or in a related field of study with relevant work experience	2	Submit your non-returnable CV and other credentials in person to CPU College, to HRM Office, located around Arat Kilo, in front of Tourist Hotel, Addis Ababa For further information contact Tel. 0996852387/ 0911480983 or P.O. Box 31166	2022-12-12 2015-4-3 ዓ/ም

Table A1: Booklet Statistics

	Across all 13 booklets		
	Average # of vacancies per week	**Total # of vacancies**	**Unique # of vacancies**
	(1)	(2)	(3)
Total	596	7748	2669
of which: low and medium skill	91	1187	1156
of which: sales and services	50	652	621
of which: manufacturing and construction	41	535	535

Notes: This table shows some summary statistics for the booklets that were published weekly between early November 2022 and early February 2023.

A.1 Intervention Cost Estimates

The largest costs associated with providing the vacancy booklet are linked to its weekly distribution across the 50 treated woredas over a 12-week period. The highest expense is printing, which amounts to 707,143 ETB ($\sim$ 13,454 USD), followed by the cost linked to the design of booklet with 441,504 ETB ($\sim$ 13,454 USD). Additional smaller costs include the collection of offline vacancy sources, which are integrated with online vacancies from Hahu Jobs (94,608 ETB ($\sim$ 1,800 USD)). Lastly, the distribution of the booklet, along with small incentives for the intervention implementers at the OSSCs, totals 270,000 ETB ($\sim$ 5,137 USD) and 225,000 ETB ($\sim$ 4,281 USD) respectively. Thus, the overall cost of the booklet intervention comes to 1,738,255 ETB ($\sim$ 33,072 USD).

To estimate the cost-benefit ratio, we first calculate the average program cost per lower-skill woman. This requires an estimate of the total number of lower-skill women living in the treated areas. In the sampled treated areas, 2,150 relevant lower-skill women benefited from the booklet roll-out. Given our sampling rate of approximately 9% of the total enumeration areas, we estimate that 24,000 relevant lower-skill women live in the treated areas. Based on these calculations, the cost per lower-skill women amounts to only 72.4 ETB. Referring to monthly returns from Table 1 (column 5), the estimated one-month return of the program is 287 ETB — already exceeding the cost of booklet provision. This highlights that the booklet can easily pay for itself. While these calculations are approximate, they strongly suggest that the program is highly cost-effective.

B Balance, Additional Results, and Robustness

B.1 Sample Overview and Balance

Table B1: Socioeconomic Characteristics, Employment, and Job Search

	Entire Sample	Lower Skill Women	Rest of Sample	(5)-(6) Δ	(5)-(6) p-value	Obs
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Socioeconomic Characteristics						
Age	30.86	31.05	30.80	-0.084	0.831	3530
Married	0.44	0.49	0.42	0.051	0.015	3530
Household size	4.50	4.57	4.47	0.081	0.341	3530
Panel B:Employment, Income, Job Search						
Paid employment (last 30d)	0.50	0.34	0.56	-0.208	0.000	3530
Self employment (last 30d)	0.13	0.10	0.14	-0.043	0.002	3530
Income from paid work (last 30d)	4288	1147	5298	-3975	0.000	3529
Total income (last 30d)	4726	1178	5865	-4316	0.000	3530
Any job search (last 30d)	0.39	0.27	0.42	-0.142	0.000	3530
Panel C:Job Search by Targeted Skill Level						
Low skill	0.07	0.10	0.06	0.055	0.000	3530
Medium skill	0.12	0.13	0.12	0.006	0.652	3530
High skill	0.23	0.06	0.28	-0.218	0.000	3530
Panel D: Job Search by Method						
OSSC (last 30d)	0.00	0.01	0.00	0.002	0.427	3530
Physical search (last 30d)	0.16	0.11	0.18	-0.054	0.000	3530
Media search (last 30d)	0.22	0.07	0.27	-0.197	0.000	3530
Brokers/agencies (last 30d)	0.07	0.08	0.06	0.021	0.058	3530
Family/friends (last 30d)	0.24	0.19	0.26	-0.051	0.002	3530
Panel E: Physical Job Search in Detail (Cond on Physical Search)						
Number of neighborhoods (last 30d)	1.79	1.49	1.85	-0.327	0.001	569
Average distance (km)	5.27	4.02	5.52	-1.334	0.003	569
Total distance (km)	10.41	6.14	11.27	-4.609	0.000	569

Notes: The baseline sample consists of 858 lower skill women. Physical search includes searching on physical job boards and working sites. Media search includes both online and offline search. Online search includes searching on the web, via SMS, or social media such as Telegram, WhatsApp, and Facebook. Traditional media includes searching in newspapers, the radio, or the TV. Panel e) reports details on physical search, conditionally on physically searching. The number of neighborhoods is the unique number of neighborhoods visited in person to search on job boards. The average distance is the mean of distances from households to job boards and working sites in the visited neighborhoods. The total distance is the sum of the distances from households to neighborhoods. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B2: Baseline Balance Table — Lower-skill Women

	Treatment		Control		Delta		
	Mean	SD	Mean	SD	Beta	P-Value	Obs
Searched for jobs in last 7d (bl)	0.14	0.35	0.13	0.34	0.013	0.586	858
Searched in OSSC in last 7d (bl)	0.00	0.00	0.00	0.05	-0.002	0.288	858
ETB spent on job search in last 7d (win) (bl)	10.27	40.21	9.07	60.31	3.503	0.356	858
# job applications in last 30d (bl)	0.30	1.16	0.29	1.61	-0.012	0.887	858
# of job offers in last 30d (bl)	0.09	0.35	0.05	0.27	0.035	0.106	858
Paid work in last 7d (main activity) (bl)	0.27	0.44	0.27	0.45	-0.007	0.817	858
Compensation last 7d (win.) (bl)	103.42	588.90	49.79	323.13	60.012	0.024	858
Worked for pay in permanent job in last 30d (bl)	0.13	0.34	0.15	0.36	-0.014	0.547	858
Worked for pay in written agreement/contract in last 30d (bl)	0.18	0.38	0.19	0.39	-0.016	0.544	858
Total household income last 30d (win.) (bl)	7179.77	6351.46	6992.35	6592.63	333.008	0.529	858
Age	30.83	9.29	31.29	9.53	-0.362	0.621	858
Currently married	0.48	0.50	0.51	0.50	-0.026	0.447	858
Household size (incl. respondent)	4.57	1.96	4.57	2.19	0.035	0.808	858
# people sleeping in same room (incl. respondent)	2.89	1.41	2.88	1.33	-0.070	0.485	858
Native language is amharic	0.82	0.38	0.81	0.40	0.004	0.882	858
# correct Raven out of 10	5.78	1.51	5.74	1.57	-0.028	0.805	858
Non-cognitive skills (1 = high, 5 = low)	2.91	0.33	2.89	0.33	0.037	0.150	858

Notes: We always control for the individual treatment dummy which controls for a second intervention that was fielded at the same time. We further control for strata fixed effects. Errors are clustered at the district level. Sampling weights are used.

Table B3: Baseline Balance Table — Rest of Sample

	Treatment		Control		Delta		
	Mean	SD	Mean	SD	Beta	P-Value	Obs
Searched for jobs in last 7d (bl)	0.25	0.43	0.27	0.44	-0.030	0.149	2672
Searched in OSSC in last 7d (bl)	0.00	0.00	0.00	0.04	-0.001	0.141	2672
ETB spent on job search in last 7d (win) (bl)	31.93	110.72	32.54	106.62	-2.256	0.619	2672
# job applications in last 30d (bl)	0.80	2.16	0.73	3.36	-0.039	0.801	2672
# of job offers in last 30d (bl)	0.18	0.52	0.20	0.58	-0.020	0.380	2672
Paid work in last 7d (main activity) (bl)	0.43	0.50	0.43	0.50	-0.001	0.960	2672
Compensation last 7d (win.) (bl)	328.97	1455.82	340.45	1629.28	-23.818	0.748	2672
Worked for pay in permanent job in last 30d (bl)	0.27	0.44	0.27	0.45	-0.005	0.838	2672
Worked for pay in written agreement/contract in last 30d (bl)	0.32	0.47	0.34	0.47	-0.015	0.522	2672
Total household income last 30d (win.) (bl)	10557.27	9434.22	10292.68	9558.40	420.158	0.370	2672
Age	30.81	8.73	30.79	9.06	0.250	0.517	2672
Currently married	0.43	0.49	0.41	0.49	0.011	0.608	2672
Household size (incl. respondent)	4.56	1.94	4.39	1.94	0.204	0.020	2672
# people sleeping in same room (incl. respondent)	2.75	1.46	2.61	1.39	0.131	0.039	2672
Native language is amharic	0.86	0.35	0.84	0.37	0.018	0.277	2672
# correct Raven out of 10	6.37	1.62	6.34	1.71	0.030	0.710	2672
Non-cognitive skills (1 = high, 5 = low)	2.85	0.34	2.85	0.32	-0.004	0.817	2672

Notes: We always control for the individual treatment dummy which controls for a second intervention that was fielded at the same time. We further control for strata fixed effects. Errors are clustered at the district level. Sampling weights are used.

Table B4: Baseline Balance Table — Full Sample

	Treatment		Control		Delta		
	Mean	SD	Mean	SD	Beta	P-Value	Obs
Searched for jobs in last 7d (bl)	0.22	0.42	0.24	0.42	-0.022	0.199	3530
Searched in OSSC in last 7d (bl)	0.00	0.00	0.00	0.04	-0.002	0.075	3530
ETB spent on job search in last 7d (win) (bl)	26.47	98.30	27.04	98.25	-1.340	0.717	3530
# job applications in last 30d (bl)	0.67	1.97	0.63	3.04	-0.048	0.688	3530
# of job offers in last 30d (bl)	0.16	0.48	0.16	0.53	-0.009	0.649	3530
Paid work in last 7d (main activity) (bl)	0.39	0.49	0.40	0.49	-0.008	0.730	3530
Compensation last 7d (win.) (bl)	272.14	1296.87	272.39	1439.50	-9.339	0.868	3530
Worked for pay in permanent job in last 30d (bl)	0.23	0.42	0.25	0.43	-0.010	0.589	3530
Worked for pay in written agreement/contract in last 30d (bl)	0.28	0.45	0.30	0.46	-0.019	0.335	3530
Total household income last 30d (win.) (bl)	9706.19	8880.51	9519.86	9059.25	321.386	0.427	3530
Age	30.81	8.87	30.91	9.17	0.092	0.804	3530
Currently married	0.44	0.50	0.43	0.50	0.003	0.869	3530
Household size (incl. respondent)	4.56	1.94	4.43	2.00	0.166	0.034	3530
# people sleeping in same room (incl. respondent)	2.78	1.45	2.67	1.38	0.086	0.131	3530
Native language is amharic	0.85	0.36	0.83	0.38	0.014	0.401	3530
=1 if female	0.54	0.50	0.54	0.50	0.001	0.917	3530
Indicator for more than 12th grade education	0.53	0.50	0.56	0.50	-0.034	0.052	3530
# correct Raven out of 10	6.22	1.61	6.20	1.70	0.007	0.919	3530
Non-cognitive skills (1 = high, 5 = low)	2.87	0.34	2.86	0.32	0.007	0.648	3530

Notes: We always control for the individual treatment dummy which controls for a second intervention that was fielded at the same time. We further control for strata fixed effects. Errors are clustered at the district level. Sampling weights are used.

Table B5: Baseline Balance Table — Full Sample Spillover Proxy

	Treatment		Control		Delta		
	Mean	SD	Mean	SD	Beta	P-Value	Obs
Searched for jobs in last 7d (bl)	0.24	0.43	0.22	0.41	0.021	0.274	3530
Searched in OSSC in last 7d (bl)	0.00	0.00	0.00	0.04	-0.001	0.121	3530
ETB spent on job search in last 7d (win) (bl)	26.78	93.06	26.73	102.98	-0.587	0.884	3530
# job applications in last 30d (bl)	0.60	1.79	0.70	3.13	-0.128	0.345	3530
# of job offers in last 30d (bl)	0.16	0.53	0.16	0.47	0.018	0.453	3530
Paid work in last 7d (main activity) (bl)	0.40	0.49	0.39	0.49	0.027	0.191	3530
Compensation last 7d (win.) (bl)	222.74	1003.65	268.51	1133.45	-60.363	0.112	3530
Worked for pay in permanent job in last 30d (bl)	0.26	0.44	0.22	0.42	0.040	0.015	3530
Worked for pay in written agreement/contract in last 30d (bl)	0.32	0.46	0.28	0.45	0.045	0.012	3530
Total household income last 30d (win.) (bl)	9441.40	7304.81	8823.94	7019.80	511.328	0.146	3530
Age	31.08	9.26	30.65	8.79	0.295	0.434	3530
Currently married	0.44	0.50	0.43	0.50	0.003	0.910	3530
Household size (incl. respondent)	4.42	1.98	4.57	1.96	-0.047	0.629	3530
# people sleeping in same room (incl. respondent)	2.71	1.36	2.74	1.47	-0.011	0.873	3530
Native language is amharic	0.85	0.36	0.83	0.37	0.015	0.403	3530
=1 if female	0.54	0.50	0.54	0.50	0.003	0.832	3530
Indicator for more than 12th grade education	0.55	0.50	0.53	0.50	0.035	0.069	3530
# correct Raven out of 10	6.28	1.63	6.15	1.67	0.118	0.179	3530
Non-cognitive skills (1 = high, 5 = low)	2.86	0.32	2.87	0.33	-0.011	0.511	3530

Notes: We always control for the individual treatment dummy which controls for a second intervention that was fielded at the same time. We further control for strata fixed effects. Errors are clustered at the district level. Sampling weights are used.

B.2 Attrition

Table B6: Baseline Balance Table Considering Attrition at Endline — Lower-skill Women

	Treatment		Control		Delta		
	Mean	SD	Mean	SD	Beta	P-Value	Obs
Searched for jobs in last 7d (bl)	0.12	0.33	0.13	0.34	-0.009	0.739	737
Searched in OSSC in last 7d (bl)	0.00	0.00	0.00	0.05	-0.003	0.286	737
ETB spent on job search in last 7d (win) (bl)	8.91	37.91	9.50	63.42	1.223	0.747	737
# job applications in last 30d (bl)	0.33	1.24	0.25	1.35	0.049	0.534	737
# of job offers in last 30d (bl)	0.08	0.33	0.04	0.23	0.033	0.122	737
Paid work in last 7d (main activity) (bl)	0.27	0.44	0.26	0.44	0.002	0.953	737
Compensation last 7d (win.) (bl)	89.76	507.17	50.45	333.65	50.476	0.059	737
Worked for pay in permanent job in last 30d (bl)	0.13	0.34	0.15	0.35	-0.005	0.838	737
Worked for pay in written agreement/contract in last 30d (bl)	0.18	0.38	0.18	0.39	-0.003	0.923	737
Total household income last 30d (win.) (bl)	6945.41	5756.60	6888.39	6624.53	147.487	0.789	737
Age	30.90	9.23	31.34	9.61	-0.228	0.768	737
Currently married	0.49	0.50	0.51	0.50	0.002	0.955	737
Household size (incl. respondent)	4.50	1.98	4.59	2.10	-0.037	0.808	737
# people sleeping in same room (incl. respondent)	2.88	1.41	2.87	1.31	-0.093	0.389	737
Native language is amharic	0.82	0.39	0.79	0.41	0.012	0.721	737
# correct Raven out of 10	5.81	1.49	5.71	1.58	0.042	0.741	737
Non-cognitive skills (1 = high, 5 = low)	2.91	0.33	2.88	0.32	0.036	0.167	737

Notes: We always control for the individual treatment dummy which controls for a second intervention that was fielded at the same time. We further control for strata fixed effects. Errors are clustered at the district level. Sampling weights are used.

Table B7: Baseline Balance Table Considering Attrition at Endline — Rest of Sample

	Treatment		Control		Delta		
	Mean	SD	Mean	SD	Beta	P-Value	Obs
Searched for jobs in last 7d (bl)	0.25	0.43	0.27	0.45	-0.037	0.098	2266
Searched in OSSC in last 7d (bl)	0.00	0.00	0.00	0.03	-0.001	0.315	2266
ETB spent on job search in last 7d (win) (bl)	31.74	111.90	32.96	106.47	-2.760	0.593	2266
# job applications in last 30d (bl)	0.77	2.02	0.80	3.59	-0.169	0.338	2266
# of job offers in last 30d (bl)	0.19	0.54	0.19	0.53	-0.012	0.619	2266
Paid work in last 7d (main activity) (bl)	0.44	0.50	0.44	0.50	-0.001	0.957	2266
Compensation last 7d (win.) (bl)	335.89	1507.82	301.85	1462.64	26.749	0.723	2266
Worked for pay in permanent job in last 30d (bl)	0.26	0.44	0.28	0.45	-0.013	0.590	2266
Worked for pay in written agreement/contract in last 30d (bl)	0.32	0.47	0.35	0.48	-0.023	0.345	2266
Total household income last 30d (win.) (bl)	10413.87	9363.70	10152.67	9378.60	438.914	0.356	2266
Age	30.77	8.75	30.74	9.14	0.253	0.556	2266
Currently married	0.43	0.49	0.41	0.49	0.008	0.739	2266
Household size (incl. respondent)	4.60	1.95	4.40	1.92	0.221	0.015	2266
# people sleeping in same room (incl. respondent)	2.79	1.47	2.61	1.38	0.147	0.038	2266
Native language is amharic	0.85	0.35	0.84	0.37	-0.001	0.939	2266
# correct Raven out of 10	6.39	1.63	6.32	1.70	0.060	0.496	2266
Non-cognitive skills (1 = high, 5 = low)	2.85	0.34	2.86	0.33	-0.007	0.687	2266

Notes: We always control for the individual treatment dummy which controls for a second intervention that was fielded at the same time. We further control for strata fixed effects. Errors are clustered at the district level. Sampling weights are used.

Table B8: Baseline Balance Table Considering Attrition at Endline — Full Sample

	Treatment		Control		Delta		
	Mean	SD	Mean	SD	Beta	P-Value	Obs
Searched for jobs in last 7d (bl)	0.22	0.41	0.24	0.43	-0.032	0.074	3003
Searched in OSSC in last 7d (bl)	0.00	0.00	0.00	0.04	-0.001	0.159	3003
ETB spent on job search in last 7d (win) (bl)	26.01	99.17	27.33	98.37	-2.079	0.616	3003
# job applications in last 30d (bl)	0.66	1.87	0.67	3.20	-0.127	0.344	3003
# of job offers in last 30d (bl)	0.16	0.49	0.16	0.48	-0.002	0.910	3003
Paid work in last 7d (main activity) (bl)	0.40	0.49	0.40	0.49	-0.005	0.821	3003
Compensation last 7d (win.) (bl)	274.11	1333.53	241.53	1289.90	28.047	0.624	3003
Worked for pay in permanent job in last 30d (bl)	0.23	0.42	0.25	0.43	-0.014	0.466	3003
Worked for pay in written agreement/contract in last 30d (bl)	0.28	0.45	0.31	0.46	-0.021	0.309	3003
Total household income last 30d (win.) (bl)	9543.25	8730.43	9369.41	8904.57	324.722	0.415	3003
Age	30.80	8.87	30.88	9.26	0.136	0.728	3003
Currently married	0.44	0.50	0.44	0.50	0.008	0.720	3003
Household size (incl. respondent)	4.57	1.96	4.44	1.96	0.156	0.065	3003
# people sleeping in same room (incl. respondent)	2.81	1.45	2.67	1.37	0.088	0.169	3003
Native language is amharic	0.84	0.36	0.83	0.38	0.001	0.933	3003
=1 if female	0.54	0.50	0.54	0.50	0.007	0.641	3003
Indicator for more than 12th grade education	0.54	0.50	0.55	0.50	-0.025	0.165	3003
# correct Raven out of 10	6.24	1.62	6.18	1.69	0.058	0.480	3003
Non-cognitive skills (1 = high, 5 = low)	2.87	0.34	2.86	0.33	0.005	0.793	3003

Notes: We always control for the individual treatment dummy which controls for a second intervention that was fielded at the same time. We further control for strata fixed effects. Errors are clustered at the district level. Sampling weights are used.

Table B9: Baseline Balance Table Considering Attrition at Endline — Full Sample Spillover Proxy

	Treatment		Control		Delta		
	Mean	SD	Mean	SD	Beta	P-Value	Obs
Searched for jobs in last 7d (bl)	0.24	0.43	0.22	0.41	0.011	0.585	3003
Searched in OSSC in last 7d (bl)	0.00	0.00	0.00	0.04	-0.001	0.176	3003
ETB spent on job search in last 7d (win) (bl)	26.70	94.40	26.65	102.77	-0.965	0.825	3003
# job applications in last 30d (bl)	0.60	1.78	0.73	3.24	-0.165	0.274	3003
# of job offers in last 30d (bl)	0.16	0.49	0.16	0.49	0.006	0.800	3003
Paid work in last 7d (main activity) (bl)	0.41	0.49	0.38	0.49	0.036	0.101	3003
Compensation last 7d (win.) (bl)	226.45	1022.22	242.83	1057.18	-24.620	0.547	3003
Worked for pay in permanent job in last 30d (bl)	0.26	0.44	0.22	0.41	0.045	0.010	3003
Worked for pay in written agreement/contract in last 30d (bl)	0.32	0.47	0.27	0.45	0.052	0.007	3003
Total household income last 30d (win.) (bl)	9347.01	7125.01	8625.73	6874.01	608.809	0.071	3003
Age	31.05	9.36	30.65	8.78	0.343	0.419	3003
Currently married	0.44	0.50	0.44	0.50	0.003	0.895	3003
Household size (incl. respondent)	4.43	1.98	4.58	1.94	-0.058	0.587	3003
# people sleeping in same room (incl. respondent)	2.73	1.37	2.75	1.46	-0.005	0.944	3003
Native language is amharic	0.85	0.36	0.83	0.38	0.021	0.276	3003
=1 if female	0.54	0.50	0.54	0.50	-0.004	0.811	3003
Indicator for more than 12th grade education	0.56	0.50	0.53	0.50	0.031	0.100	3003
# correct Raven out of 10	6.29	1.62	6.13	1.68	0.139	0.134	3003
Non-cognitive skills (1 = high, 5 = low)	2.86	0.33	2.87	0.34	-0.007	0.705	3003

Notes: We always control for the individual treatment dummy which controls for a second intervention that was fielded at the same time. We further control for strata fixed effects. Errors are clustered at the district level. Sampling weights are used.

Table B10: Attrition Balance: Lower-Skill Women

	Full Sample		Experimental Sample		Difference		
	Mean	SD	Mean	SD	Beta	P-Value	Obs
Searched for jobs in last 7d	0.13	0.34	0.14	0.34	-0.010	0.086	1595
Searched in OSSC in last 7d	0.00	0.04	0.00	0.03	0.000	0.364	1595
ETB spent on job search in last 7d (win)	9.20	52.06	9.70	50.88	-0.853	0.344	1595
# job applications in last 30d	0.29	1.30	0.29	1.39	-0.007	0.817	1595
Paid work in last 7d (main activity)	0.26	0.44	0.27	0.44	-0.002	0.724	1595
Worked for pay in permanent job in last 30d	0.14	0.35	0.14	0.35	-0.000	0.980	1595
Worked for pay in written agreement/contract in last 30d	0.18	0.39	0.18	0.39	0.002	0.705	1595
Total household income last 30d (win.)	6917.25	6196.30	7089.33	6465.85	-210.861	0.075	1595
Age	31.12	9.42	31.05	9.40	0.143	0.233	1595
Currently married	0.50	0.50	0.49	0.50	0.005	0.493	1595
Native language is amharic	0.80	0.40	0.81	0.39	-0.007	0.123	1595
# correct Raven out of 10	5.76	1.53	5.76	1.54	-0.010	0.692	1595
Non-cognitive skills (1 = high, 5 = low)	2.90	0.32	2.90	0.33	-0.002	0.668	1595
Booklet treatment	0.51	0.50	0.52	0.50	-0.011	0.090	1595

Notes: We always control for the individual treatment dummy which controls for a second intervention that was fielded at the same time. We further control for strata fixed effects and at most two imbalanced covariates at baseline. Errors are clustered at the district level. Sampling weights are used.

Table B11: Attrition Balance: Rest of Sample

	Full Sample		Experimental Sample		Difference		
	Mean	SD	Mean	SD	Beta	P-Value	Obs
Searched for jobs in last 7d	0.26	0.44	0.26	0.44	0.000	0.914	4938
Searched in OSSC in last 7d	0.00	0.02	0.00	0.03	-0.000	0.375	4938
ETB spent on job search in last 7d (win)	32.36	109.15	32.24	108.64	-0.376	0.691	4938
# job applications in last 30d	0.79	2.92	0.77	2.83	0.015	0.520	4938
Paid work in last 7d (main activity)	0.44	0.50	0.43	0.50	0.003	0.539	4938
Worked for pay in permanent job in last 30d	0.27	0.45	0.27	0.44	0.001	0.753	4938
Worked for pay in written agreement/contract in last 30d	0.33	0.47	0.33	0.47	0.001	0.813	4938
Total household income last 30d (win.)	10280.96	9370.13	10423.19	9496.49	-205.852	0.030	4938
Age	30.76	8.95	30.80	8.90	0.014	0.869	4938
Currently married	0.42	0.49	0.42	0.49	0.001	0.776	4938
Native language is amharic	0.85	0.36	0.85	0.36	0.000	0.865	4938
=1 if female	0.39	0.49	0.39	0.49	-0.001	0.808	4938
Indicator for more than 12th grade education	0.72	0.45	0.72	0.45	0.005	0.154	4938
# correct Raven out of 10	6.35	1.67	6.36	1.66	-0.006	0.692	4938
Non-cognitive skills (1 = high, 5 = low)	2.85	0.33	2.85	0.33	0.003	0.202	4938
Booklet treatment	0.49	0.50	0.49	0.50	-0.006	0.220	4938

Notes: We always control for the individual treatment dummy which controls for a second intervention that was fielded at the same time. We further control for strata fixed effects and at most two imbalanced covariates at baseline. Errors are clustered at the district level. Sampling weights are used.

B.3 Additional Results and Robustness

Table B12: Main Findings During vs End of the Intervention (Rest of Sample)

	Job Search Behavior		Labor Market Downstream Outcomes		
	# Applications	# Offers	Employment for pay	Work in HH business	Total Income
	(1)	(2)	(3)	(4)	(5)
TE during intervention	0.020	-0.031	-0.005	-0.012	-240.584
	(0.095)	(0.039)	(0.026)	(0.020)	(260.061)
TE after intervention	-0.038	-0.027	-0.020	-0.004	-177.537
	(0.092)	(0.025)	(0.026)	(0.021)	(263.547)
Difference	0.058	-0.004	0.015	-0.008	-63.047
	(0.132)	(0.047)	(0.037)	(0.029)	(369.183)
Control mean during	0.546	0.247	0.625	0.154	4377.480
Control mean after	0.401	0.443	0.622	0.167	4230.082
N during	1154	1154	1154	1154	1154
N after	1112	1112	1112	1112	1112

Notes: All specifications include the individual treatment dummy which controls for a second intervention that was fielded at the same time, though the point estimates have been suppressed for clarity. All specifications also include the baseline value of the dependent variable and strata (subcity) fixed effects. In addition, we control for baseline imbalances taking into account attrition at endline as shown in Tables B6 and B7. We furthermore select additional controls using post-double selection (Belloni et al., 2014). The observations are measured at endline, that is after the intervention has ended. We conducted the endline in two rounds with the first round being within 30 days after the last vacancy booklet has been published. Errors are clustered at the district level. Sampling weights are used. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table B13: Main Findings (Pooled)

	Job Search Behavior		Labor Market Downstream Outcomes		
	# Applications	# Offers	Employment for pay	Work in HH business	Total Income
	(1)	(2)	(3)	(4)	(5)
Booklet Treatment	0.017	-0.005	0.007	-0.027**	-50.658
	(0.051)	(0.019)	(0.016)	(0.012)	(144.464)
Control mean	0.394	0.359	0.563	0.162	3584.040
Number of obs.	3003	3003	3003	3003	3003

Notes: All specifications include the individual treatment dummy which controls for a second intervention that was fielded at the same time, though the point estimates have been suppressed for clarity. All specifications also include the baseline value of the dependent variable and strata (subcity) fixed effects. In addition, we control for baseline imbalances taking into account attrition at endline as shown in Tables B6 and B7. We furthermore select additional controls using post-double selection (Belloni et al., 2014). The observations are measured at endline, that is after the intervention has ended. We conducted the endline in two rounds with the first round being within 30 days after the last vacancy booklet has been published. Errors are clustered at the district level. Sampling weights are used. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table B14: Take-up of the Intervention (Pooled)

	Aware of booklet	Used booklet	Applied to booklet
	(1)	(2)	(3)
Booklet Treatment	0.638***	0.132***	0.018***
	(0.014)	(0.010)	(0.004)
Control mean	0.057	0.007	0.000
Number of obs.	3003	3003	3003

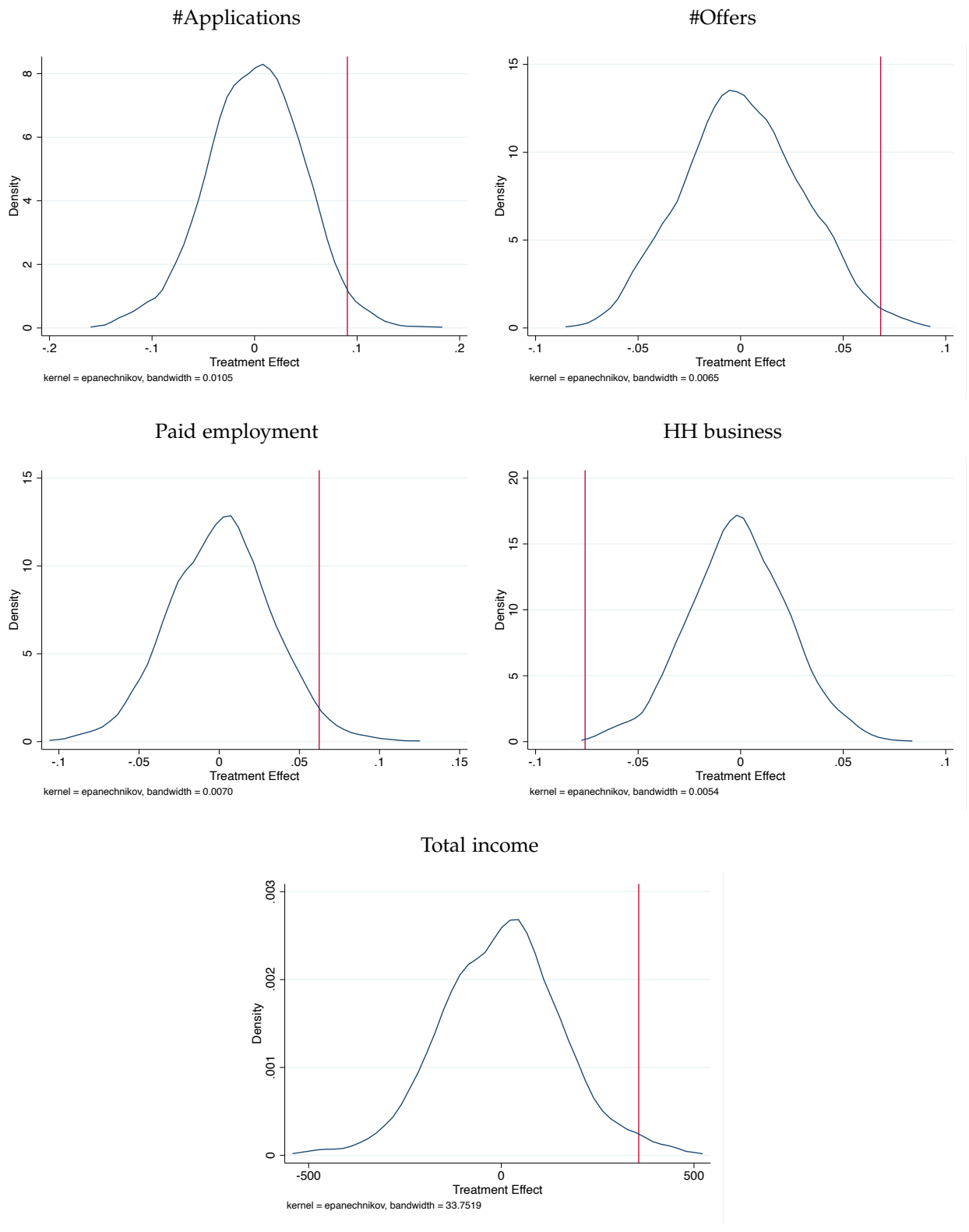
Notes: All specifications include the individual treatment dummy which controls for a second intervention that was fielded at the same time, though the point estimates have been suppressed for clarity. All specifications include strata (subcity) fixed effects. In addition, we control for baseline imbalances taking into account attrition at endline as shown in Tables B6 and B7. We furthermore select additional controls using post-double selection (Belloni et al., 2014). The observations are measured at endline, that is after the intervention has ended. We conducted the endline in two rounds with the first round being within 30 days after the last vacancy booklet has been published. Errors are clustered at the district level. Sampling weights are used. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table B15: Directed Search and Job Search Aspirations

	Directed search		Job search aspirations			
	High Skill ISCO	Low and Medium Skill ISCO	Reservation wage gap temporary - permanent job (win.)	Reservation wage permanent job (win.)	Reservation wage for temporary job (win.)	Aspired salary in 5 years (win.)
	(1)	(2)	(3)	(4)	(5)	(6)
Booklet Treatment	0.038**	-0.031	688.632**	33.102	745.793*	1192.595**
	(0.016)	(0.030)	(315.506)	(201.896)	(386.014)	(597.320)
Control mean	0.036	0.184	448.983	4994.997	5446.715	9233.747
Number of obs.	737	737	731	737	731	734

Notes: All specifications include the individual treatment dummy which controls for a second intervention that was fielded at the same time, though the point estimates have been suppressed for clarity. All specifications also include the baseline value of the dependent variable and strata (subcity) fixed effects. In addition, we control for baseline imbalances taking into account attrition at endline as shown in Tables B6 and B7. We furthermore select additional controls using post-double selection (Belloni et al., 2014). The observations are measured at endline, that is after the intervention has ended. We conducted the endline in two rounds with the first round being within 30 days after the last vacancy booklet has been published. Errors are clustered at the district level. Sampling weights are used. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

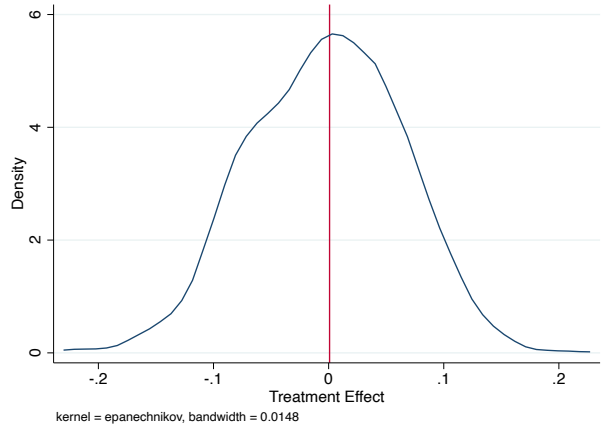
Figure B1: Randomization Inference - Main Findings (LSW)



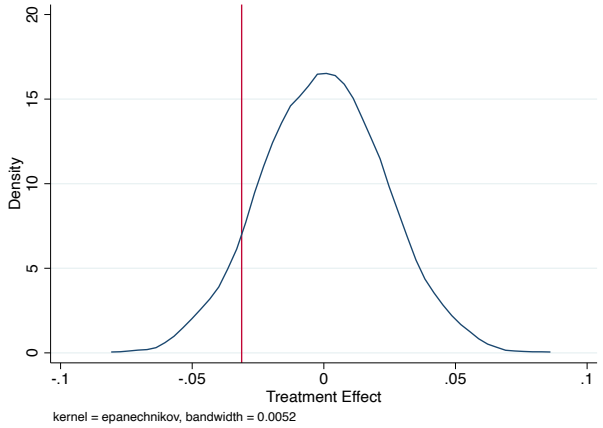
Randomization inference following *ritest* Stata command using 1000 draws.

Figure B2: Randomization Inference - Main Findings (RoS)

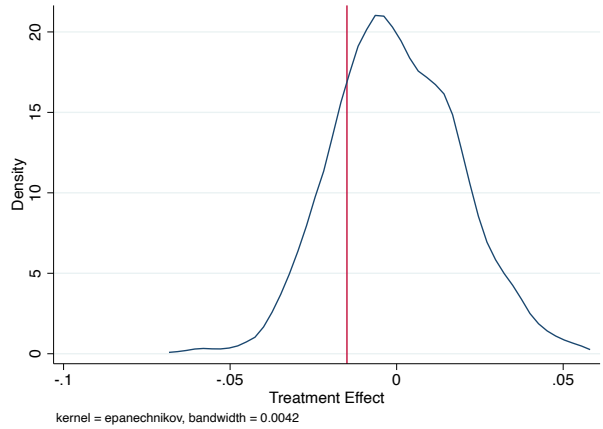
#Applications



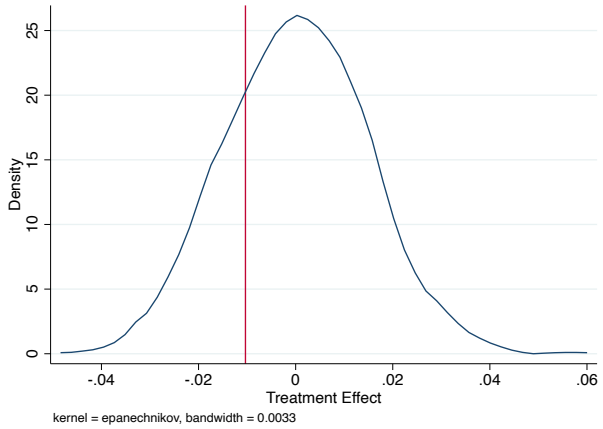
#Offers



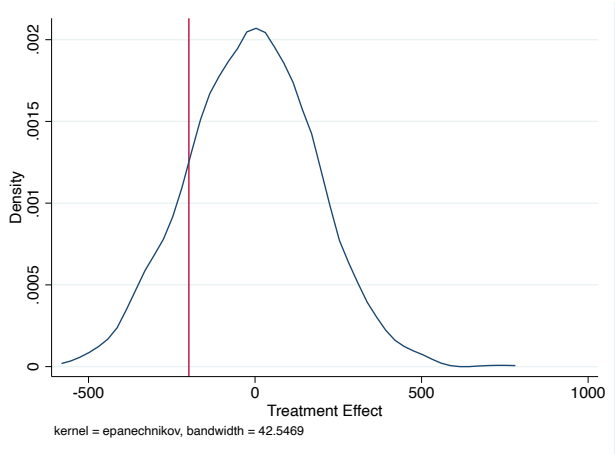
Paid employment



HH business



Total income



Randomization inference following *ritest* Stata command using 1000 draws.

Table B16: Main Findings - No Lasso Controls

	Job Search Behavior		Labor Market Downstream Outcomes		
	# Applications	# Offers	Employment for pay	Work in HH business	Total Income
	(1)	(2)	(3)	(4)	(5)
Treatment effect for LSW	0.087	0.072**	0.054	-0.077***	304.565*
	(0.059)	(0.030)	(0.033)	(0.029)	(178.481)
Treatment effect for RoS	-0.031	-0.032	-0.022	-0.009	-144.545
	(0.066)	(0.024)	(0.028)	(0.017)	(221.068)
Difference	0.119	0.104***	0.076	-0.068**	449.110
	(0.082)	(0.036)	(0.047)	(0.033)	(306.079)
Control mean LSW	0.137	0.214	0.371	0.168	1298.736
Control mean RoS	0.475	0.403	0.624	0.160	4305.507
N LSW	737	737	737	737	737
N RoS	2266	2266	2266	2266	2266

Notes: All specifications include the individual treatment dummy which controls for a second intervention that was fielded at the same time, though the point estimates have been suppressed for clarity. All specifications also include the baseline value of the dependent variable and strata (subcity) fixed effects. In addition, we control for baseline imbalances taking into account attrition at endline as shown in Tables B6 and B7. The observations are measured at endline, that is after the intervention has ended. We conducted the endline in two rounds with the first round being within 30 days after the last vacancy booklet has been published. Errors are clustered at the district level. Sampling weights are used. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B17: Main Findings - Neighborhood Spillovers (LSW)

	Job Search Behavior		Labor Market Downstream Outcomes		
	# Applications	# Offers	Employment for pay	Work in HH business	Total Income
	(1)	(2)	(3)	(4)	(5)
Booklet Treatment	0.090*	0.068***	0.063**	-0.076***	353.794**
	(0.048)	(0.026)	(0.031)	(0.023)	(156.214)
2nd closest OSSC has booklet	0.000	-0.012	0.015	0.001	-71.574
	(0.049)	(0.033)	(0.032)	(0.024)	(164.764)
Control mean	0.116	0.207	0.344	0.164	1320.370
Number of obs.	737	737	737	737	737

Notes: All specifications include the individual treatment dummy which controls for a second intervention that was fielded at the same time, though the point estimates have been suppressed for clarity. All specifications also include the baseline value of the dependent variable and strata (subcity) fixed effects. In addition, we control for baseline imbalances taking into account attrition at endline as shown in Tables B6 and B7. We furthermore select additional controls using post-double selection (Belloni et al., 2014). The observations are measured at endline, that is after the intervention has ended. We conducted the endline in two rounds with the first round being within 30 days after the last vacancy booklet has been published. Errors are clustered at the district level. Sampling weights are used. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table B18: Main Findings - Neighborhood Spillovers (RoS)

	Job Search Behavior		Labor Market Downstream Outcomes		
	# Applications	# Offers	Employment for pay	Work in HH business	Total Income
	(1)	(2)	(3)	(4)	(5)
Booklet Treatment	-0.008	-0.028	-0.014	-0.009	-217.601
	(0.067)	(0.023)	(0.019)	(0.015)	(186.413)
2nd closest OSSC has booklet	0.027	0.016	-0.026	-0.017	-177.292
	(0.063)	(0.024)	(0.019)	(0.015)	(192.201)
Control mean	0.467	0.392	0.604	0.178	4246.919
Number of obs.	2266	2266	2266	2266	2266

Notes: All specifications include the individual treatment dummy which controls for a second intervention that was fielded at the same time, though the point estimates have been suppressed for clarity. All specifications also include the baseline value of the dependent variable and strata (subcity) fixed effects. In addition, we control for baseline imbalances taking into account attrition at endline as shown in Tables B6 and B7. We furthermore select additional controls using post-double selection (Belloni et al., 2014). The observations are measured at endline, that is after the intervention has ended. We conducted the endline in two rounds with the first round being within 30 days after the last vacancy booklet has been published. Errors are clustered at the district level. Sampling weights are used. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table B19: Main Findings - Multiple Hypothesis Testing

	Job Search Behavior		Labor Market Downstream Outcomes		
	# Applications	# Offers	Employment for pay	Work in HH business	Total Income
	(1)	(2)	(3)	(4)	(5)
Treatment effect for LSW	0.085*	0.070**	0.054*	-0.073***	287.159*
	(0.048)	(0.028)	(0.031)	(0.023)	(158.419)
	[0.052]*	[0.023]**	[0.052]*	[0.007]***	[0.052]*
Treatment effect for RoS	0.003	-0.032	-0.014	-0.011	-182.090
	(0.066)	(0.023)	(0.019)	(0.015)	(185.282)
	[1.000]	[1.000]	[1.000]	[1.000]	[1.000]
Difference	0.082	0.102***	0.068*	-0.062**	469.249*
	(0.081)	(0.037)	(0.036)	(0.027)	(243.087)
Control mean LSW	0.137	0.214	0.371	0.168	1298.736
Control mean RoS	0.475	0.403	0.624	0.160	4305.507
N LSW	737	737	737	737	737
N RoS	2266	2266	2266	2266	2266

Notes: All specifications include the individual treatment dummy which controls for a second intervention that was fielded at the same time, though the point estimates have been suppressed for clarity. All specifications also include the baseline value of the dependent variable and strata (subcity) fixed effects. In addition, we control for baseline imbalances taking into account attrition at endline as shown in Tables B6 and B7. We furthermore select additional controls using post-double selection (Belloni et al., 2014). The observations are measured at endline, that is after the intervention has ended. We conducted the endline in two rounds with the first round being within 30 days after the last vacancy booklet has been published. Errors are clustered at the district level. Sampling weights are used. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table B20: Main Findings - Experimenter Demand (LSW)

	Job Search Behavior		Labor Market Downstream Outcomes		
	# Applications	# Offers	Employment for pay	Work in HH business	Total Income
	(1)	(2)	(3)	(4)	(5)
TE for Job Search Reminder Call	0.037	0.039	-0.002	-0.073*	148.096
	(0.083)	(0.051)	(0.060)	(0.042)	(346.819)
TE for No Call	0.001	0.095**	0.186**	-0.212***	1422.086***
	(0.114)	(0.045)	(0.092)	(0.057)	(460.254)
Difference	0.036	-0.056	-0.188*	0.139*	-1.3e+03**
	(0.147)	(0.068)	(0.110)	(0.071)	(585.901)
Control mean Job Search Reminder Call	0.173	0.239	0.433	0.154	1734.192
Control mean No Call	0.130	0.170	0.261	0.239	884.043
N Job Search Reminder Call	203	203	203	203	203
N No Call	92	92	92	92	92

Notes: All specifications include the individual treatment dummy which controls for a second intervention that was fielded at the same time, though the point estimates have been suppressed for clarity. All specifications also include the baseline value of the dependent variable and strata (subcity) fixed effects. In addition, we control for baseline imbalances taking into account attrition at endline as shown in Tables B6 and B7. We furthermore select additional controls using post-double selection (Belloni et al., 2014). The observations are measured at endline, that is after the intervention has ended. We conducted the endline in two rounds with the first round being within 30 days after the last vacancy booklet has been published. Errors are clustered at the district level. Sampling weights are used. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.